

# Rock Products

DEVOTED TO  
Concrete and Manufactured  
Building Materials

Vol. IX.

CHICAGO, ILL., SEPTEMBER 22, 1909.

No. 3.

## CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratone's" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La.

**DEXTER** Portland Cement  
THE NEW STANDARD

Sole Agents **SAMUEL H. FRENCH & CO.** Philadelphia



## UNION MINING COMPANY

Manufacturers of the Celebrated

**MOUNT SAVAGE**  
FIRE BRICK  
GOVERNMENT STANDARD.

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

**Lime Kiln and  
Cement Kiln  
Construction**

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

**UNION MINING CO.,**  
Mount Savage, Md.

CAPACITY, 60,000 PER DAY.  
ESTABLISHED 1841.

## SPECIAL FEATURES IN THIS NUMBER

Remarkable Growth and Importance of the Concrete Drain Tile Industry.

Description of the Modern Lime and Hydrating Plant of the Dittlinger Lime Company.

Quarterly Meeting of the Association of American Portland Cement Manufacturers.

Great Activity in the Delivery of Building Materials Evidenced by the Reports of Staff Correspondents.



**Phoenix Portland Cement** UNEXCELLED FOR ALL USES.

Manufactured by

**PHOENIX CEMENT CO.**

NAZARETH, PA.

Sole Selling Agent, **WILLIAM G. HARTRANFT CEMENT CO.**  
Real Estate Trust Building, PHILADELPHIA, PENNSYLVANIA.

## Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

**OTTAWA SILICA CO., . . . Ottawa, Ill.**



BEST BELT  
FOR GRIFFIN,  
TUBE AND  
BALL MILLS

## Chicago Belting Co.

CHICAGO, PHILADELPHIA, PORTLAND, ORE., NEW ORLEANS.

MAKERS OF **Leather Belting**

BEST BELT  
FOR  
DAMP  
PLACES



## ALMA Portland Cement

STANDARD BRAND  
OF  
MIDDLE WEST.

Specially adapted to all Reinforced Concrete and High-Class Work.

**ALMA CEMENT CO.**  
WELLSTON, OHIO.

How do you figure your Lime Kiln, Rotary Cement Kiln and other furnace expenses and charges for Refractories?  
By the cost of the BRICK, or by the length of the service they will give?

**Harbison-Walker Refractories Co.** { FIRE CLAY  
SILICA  
MAGNESIA  
CHROME } **Brick**

Are made of the highest grade raw materials under expert supervision, in modern up-to-date works, and are worth more because better than others. They last longer and are more economical. You can prove this statement in your own works by sending us a trial order. Information, records and prices on request.

**Harbison-Walker Refractories Co.**  
LARGEST CAPACITY PITTSBURG, PA. PROMPT SHIPMENTS

**THIS SPACE  
FOR SALE  
GOING!**

**GOING!**



## A PERFECT RECORD FOR TEN YEARS

IN ALL KINDS OF CONCRETE WORK

Send for 72 page Illustrated Catalog No. 25

**MARQUETTE CEMENT MANUFACTURING CO.**  
Marquette Building, Chicago





## Peninsular Portland Cement

Acknowledged by competent Architects and Engineers to be unequalled for fineness, wonderful development of strength and sand carrying capacity.

**"THE BEST IS THE CHEAPEST"**

Address  
**Peninsular Portland Cement Co.**  
 Jackson, Michigan

## GRAVEL WASHING PLANTS



Stone Crushing, Cement and Power Plants

**J. C. Buckbee Company, Engineers, CHICAGO**

—Ask—  
 CHICAGO GRAVEL CO., - Chicago, Ill.  
 JOLIET S. & G. CO., - Plainfield, Ill.  
 PETERSON & WRIGHT, - Akron, Ohio  
 SOUTHERN G. & M. CO., Brook Haven, Miss.  
 About Their Plants

## "LEHIGH" PORTLAND CEMENT

High Tensile Strength, Finely Ground, Light and Uniform in Color.

MANUFACTURED BY THE

**Lehigh Portland Cement Co.**

ALLENTOWN, PA

Western Office:  
 725 Rockefeller Bldg.,  
 CLEVELAND, OHIO

Write for Catalogue

Capacity, 8,000,000 Yearly.

## Red Ring Portland Cement



Manufacturers: Sales Office Liggett Bldg. St. Louis

Tell 'em you saw it in ROCK PRODUCTS



**Strength  
 Uniformity  
 Satisfaction**

**A Dependable Portland Cement**

An Unblemished Record for six years speaks for itself

**Wolverine Portland Cement Company**  
 Coldwater, Michigan

W. E. COBEAN, Agent, Chamber of Commerce Building, Chicago



ONE GRADE—ONE BRAND

## Alpha Portland Cement

The Recognized Standard  
 American Brand

General Offices: EASTON, PA.

—SALES OFFICES:—

German National Bk. Bldg., PITTSBURGH.	Builders Exchange, BUFFALO.
Builders Exchange, BALTIMORE.	Board of Trade Bldg., BOSTON.
Marquette Building, CHICAGO.	St. Paul Bldg., NEW YORK.
Harrison Building, PHILADELPHIA.	Nat'l Bank Bldg., SAVANNAH, GA.



## CHICAGO "AA"

1,000,000 Barrels Annually

**Highest Quality**

THE BEST THAT CAN BE MADE

Factory at Oglesby, near La Salle, Ill.

On C. M. & St. P. R. R. C. R. I. & P. R. R.  
 C. B. & Q. R. R. by Switch.  
 I. C. R. R.

MANUFACTURED BY

**CHICAGO PORTLAND CEMENT CO.**

No. 108 La Salle Street, CHICAGO, ILL.

SPECIFY

## Edison Portland Cement

85% Thru 200

98% Thru 100

UNIFORMLY 10% FINEST GROUND CEMENT MANUFACTURED

SALES OFFICES:

New York, St. James Bldg.	Boston, P. O. Square Bldg.
Philadelphia, Arcade Bldg.	Newark, Union Bldg.
Pittsburg, Machesney Bldg.	Savannah, Natl. Bank Bldg.







**v**  
**T**

into  
try  
one  
for  
agr  
ele  
mu

are  
me  
ope  
The  
dev  
the

to  
and  
som  
who  
tak  
che  
in  
pay  
con

I  
for  
Lar  
who  
tion  
the  
A  
or



# Rock Products

DEVOTED TO  
Concrete and Manufactured  
Building Materials

Volume IX.

CHICAGO, ILL., SEPTEMBER 22, 1909.

Number 3.

## THE PRACTICAL VALUE OF DRAIN TILE

The Concrete Tile Industry Shows Steady Growth of Importance  
in the Trade and Great Popularity With the Users.

The reclamation of waste land today holds the interest of a greater number of people of this country than any other subject. It is a vitally economic one. With the rapidly growing sections that heretofore have laid unused, many people are turning to the agricultural industry to become part of the productive element of the nation, and this offers the most remunerative field today.

The daily press is full of news of the lands which are opened up by both the state and national governments. Reservations that have lain as deserts are now open, and people are encouraged to take up claims. The center of interest is the irrigation projects. To develop and nurture the soil has been their principal theme.

Such projects are pushed by the state government to interest more people to settle in the territory, and thus contribute more to its wealth by producing some product. Again, some private corporation, whose motives are wholly for their own gain, have taken hold and boomed such propositions. They offer cheap land and perpetual water rights, as the land in every case must be irrigated. These for small payments that can be made in any period of years convenient to owner and purchaser.

It can readily be seen that these propositions are forced by conditions developing in the farm sections. Land is becoming more valuable, and many people who want to take up farming cannot secure a location in the most desirable sections commensurate with the amount of money they are able to invest.

A trip through Indiana, Illinois, Iowa, Missouri or Kansas impresses the observer how well the farmer



CONCRETE TILE ON FARM OF WILL CONNORS,  
CERRO GORDO COUNTY, IOWA.

has prospered, and why there is such a rush for favorable farm sites. Small wonder indeed so many

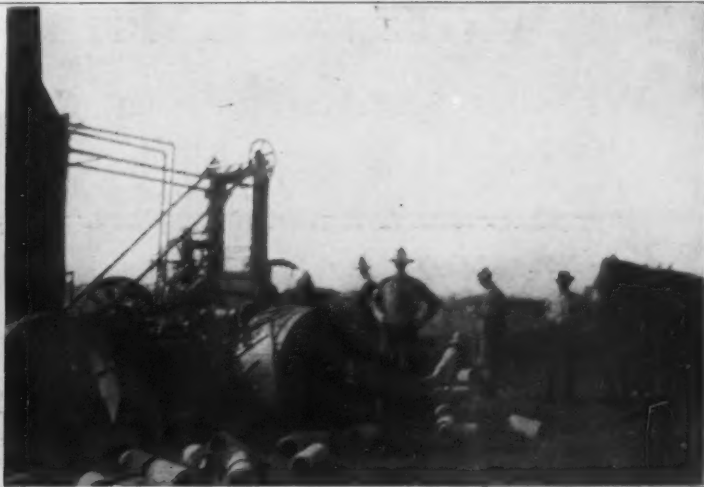
people wish to take up farming. The opportunity is ripe to develop property which will become more valuable as improvements are made. We see on every hand inexperienced people taking up such farms and developing them. They will give their time, money and best effort to develop a tract of land that is now waste. Soon fertile fields will take the place of what is now seen.

Yet with this march going on, the deplorable fact is seen of land uncultivated for no other reason than that it needs some small improvement to make it productive. There is scarcely a farm where the entire acreage is used. There are but few farms that could not be made available and every part of the land used for some purpose. A man buys or rents a quarter section of land. He pays so much per acre, whether it is field, pasture or a swamp. Every inch of this property is taxable at the same rate, whether it is under cultivation or not.

There are many farmers who see that by improvements their unused land can be made to yield its portion. They have taken the necessary steps to do this, and it has equalled their expectations. Nothing more is needed in many cases than a drainage system, and land tiled is all that is necessary.

Every one has seen a beautiful field of corn on the hillside, while at the bottom of the hill a barren field, a slough or pond. If this water was properly drawn off there would be no trouble from rain or overflowing ditches. Many farmers have seen the low lands of their property washed by the spring freshet and the

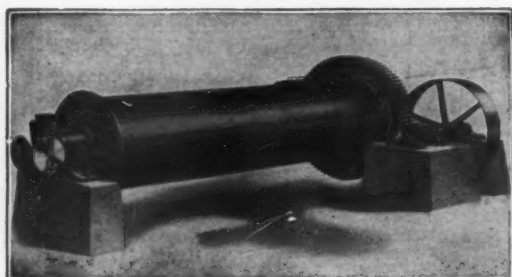
(Continued on Page 42)



METHODS EMPLOYED IN DIGGING TRENCHES FOR CONCRETE TILE.  
THIS CREW DOES ALL WORK BY HAND. DITCHER MACHINE AND CREW AT WORK.

# POWER AND MINING MACHINERY COMPANY

## Cement Machinery



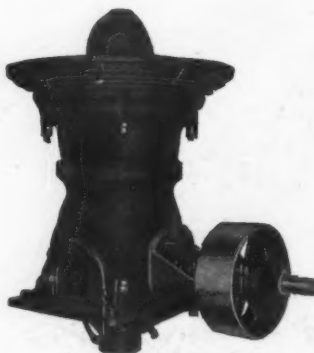
The most up-to-date and serviceable types of machinery and complete plants are our specialty.

### McCULLY CRUSHERS

The world's greatest gyratory rock crusher. Built in 10 sizes and Mammoth with 27 in., 36 in. and 42 in. openings.

### TUBE MILLS

For wet or dry grinding. Made in following sizes: 5 feet, 5½ feet, 6 feet and 7 feet diameter by lengths as required.



### Ball Tube Mills

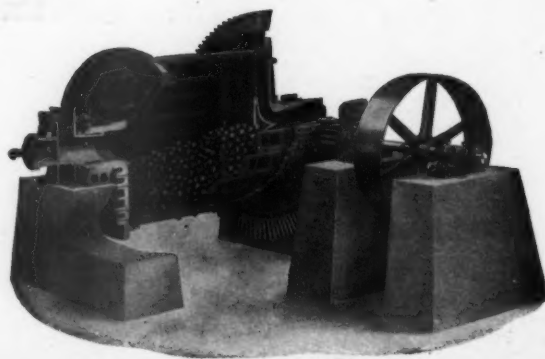
The mill without screens. Hence no shut-downs. Unexcelled for preliminary grinding of both raw material and clinker.

Our line includes the newest types of

### Coolers, Dryers Rotary Kilns

Write for our interesting catalog 7-R.

"Cement Making Machinery."



#### Sales Offices

CHICAGO  
EL PASO  
NEW YORK  
115 Broadway

Works  
and General Office  
**Cudahy, Wis.**  
Suburb of Milwaukee

#### Sales Offices

MEXICO CITY  
SALT LAKE CITY  
SAN FRANCISCO  
Sheldon Building

Tell 'em you saw it in ROCK PRODUCTS



# Hydrated Lime

Bulletin 30

---

---

## THERE ARE INNUMERABLE GOOD REASONS

Why you should install [at once]

## The Kritzer Hydrating Process

---

---

**T**HE chief and principal reason is, because Hydrated Lime has proven to be of far superior merit—much more economical and effective than common lump lime.

☛ Most Architects, Masons, Contractors, Dealers, Corporations and Owners know this—others are rapidly acquiring this knowledge.

☛ Consequently, the great and steadily-increasing demand for Hydrated Lime—which has already so shifted and changed the trade conditions that even now lump lime appears in perspective as if it never had been more than an incomplete or half baked product.

☛ And inasmuch as the demand has greatly changed, the supply must also change.

☛ Hence, keen and ambitious Lime manufacturers are hastening to install the KRITZER HYDRATING PROCESS—to keep abreast of the times and save to themselves the business of a lifetime.

☛ We have expert engineers and practical men to design, build and equip a complete Hydrating Plant for you—exactly suited to all conditions and needs of your locality.

☛ We will START you RIGHT!

☛ The Kritzer Hydrating Process has always been successful. Never has it met with even a criticism.

☛ We will develop for you the ONE SYSTEM that will produce the greatest returns on your investment—so that success and prosperity will be assured you from the start.

**It's Time Right NOW for YOU  
to Get Busy!**

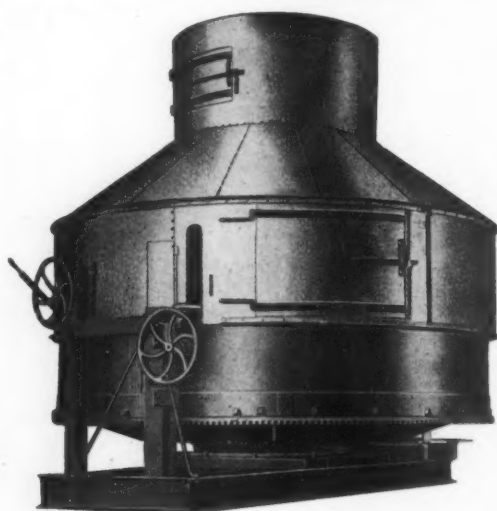
☛ For full particulars on "the most successful process," write

---

---

**The Kritzer Company**  
115 Adams Street, - CHICAGO, ILLINOIS

Tell 'em you saw it in ROCK PRODUCTS



## The Clyde Hydrator

is the accepted standard of highest efficiency, economical operation, positive results and general all around serviceability in hydrating machinery.

There are more of them in use than all others put together.

They have proven their merit under all conditions.

We will furnish full information, booklets and interesting data on your request.

*"We like to answer questions"*

### CLYDE IRON WORKS

Manufacturers.

DULUTH, MINN.

Tell 'em you saw it in ROCK PRODUCTS





## Art White Cement

Makes an  
**Attractive White Stone**

Artistic, Ornamental, Decorative, Pleasing  
in Appearance and Profitable. It

will pay you to investi-

gate. Costs but

little.

**TRY IT**

\$1.50 per 95 lb. sack. \$5.00 per barrel (380 lbs. net.)

Send check for sample barrel

## The Bartlett Co.

Jackson, Mich.

## Berkshire Snow White Portland Cement



BERKSHIRE IS USED FOR ALL OUTDOOR AND INDOOR WORK  
WHERE A PERMANENT PURE WHITE EFFECT IS DESIRED

SOLD BY

## George W. DeSmet

SOLE DISTRIBUTOR FOR

### Vulcanite Portland Cement

Also for the CELEBRATED

### WATERPROOFING COMPOUNDS DEHYDRATINE

Damp and Water-resisting Paint. Waterproofs structures from cellar to roof.

### SYMENTREX

(Liquid Concrete)  
Beautifies and waterproofs brick and concrete surfaces.

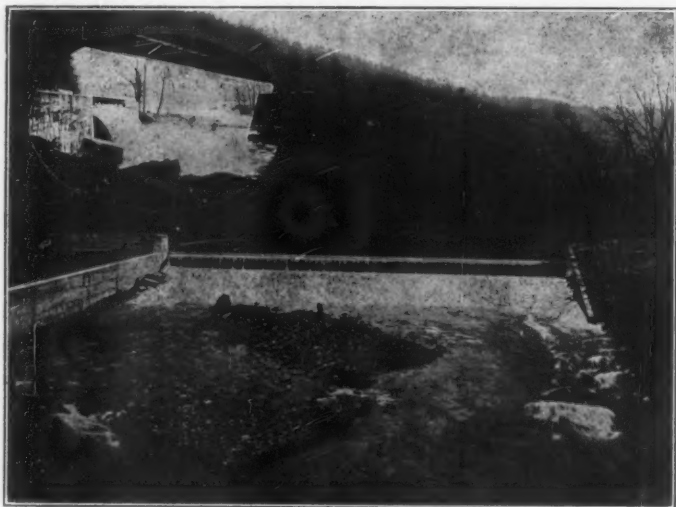
### HYDRATITE

This compound makes concrete impervious to water.

OFFICES:

317 CHAMBER OF COMMERCE

Chicago, Ill.



CONCRETE RUNWAY AND DAM

Analomink Paper Company  
North Water Gap, Pa.

## Nazareth Portland Cement

### CHARLES WARNER COMPANY

SALES AGENT

Executive Offices, Wilmington, Del.

Land Tile Building,  
Philadelphia, Pa.

1 Madison Avenue,  
New York, N. Y.

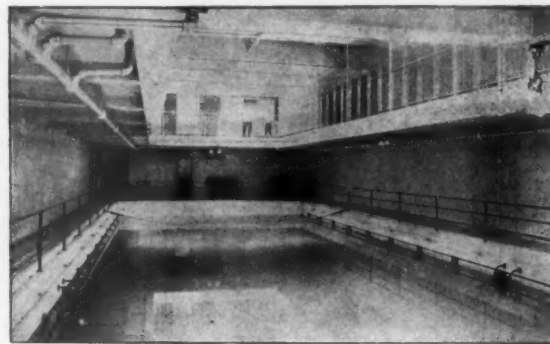
161 Devonshire Street,  
Boston, Mass.



## Medusa Water-Proof Compound

Makes all Concrete Watertight  
It Is Not a Wash

Write for pamphlet describing its use. Do not accept a substitute,  
as there are many adulterated compounds on the market.



Soulard Public Bath House, St. Louis, Mo.

Pool, floors, steps and walls surfaced with Medusa Pure White Stainless Portland Cement, containing Medusa Waterproof Compound.

Sample of our Pure White Portland Cement sent on request.

Obtain our price on Medusa Portland. Annual Capacity 1,500,000 bbls

### Sandusky Portland Cement Co.

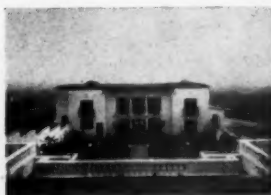
SANDUSKY, OHIO

Tell 'em you saw it in ROCK PRODUCTS



**MR. ARCHITECT—  
MR. CONTRACTOR—  
MR. ENGINEER—**

**W**HEN you want a coating for concrete that will not destroy the desirable distinctive texture of concrete, will give perfect satisfaction, will not chip, flake nor peel off, but will become a part of the material itself and will absolutely protect your stucco or concrete construction against the ravages of dampness as well as give it any tint you desire, apply **Bay State Brick and Cement Coating**.



We can give you the names of some of the largest mills, public and private buildings, as well as those of leading architects, who have used this coating with perfect satisfaction. It is much more durable than either lead or cold water paints and can be applied to a damp surface.

It will lessen the insurance rate because it has been endorsed as a Fire Retarder by the National Board of Fire Underwriters. Ask your dealer for it.

Address us for our color cards and descriptive matter.

**WADSWORTH,  
HOWLAND & CO., Inc.**

**Paint and Varnish Makers  
and Lead Corroders**

**98-99 Washington Street, - BOSTON, MASS.**

**Flint Pebbles and Buhr Stone  
Linings.**

**French Buhr Mill Stones,  
Solids and Built.**

**J. M. Charles,  
Sole Agent.**

**59 Pearl St., NEW YORK, N. Y.**

**Bolting Cloths, Dufour Swiss  
Silk, Fine Wire Cloth.**

**Mixing and Sifting  
Machinery.**

**"ANHYDRA"**

**The Perfect Waterproofing for All Kinds of Concrete Work**

Thoroughly demonstrating experiments prove that this waterproofing preparation is the most economical and efficient thing of the kind ever offered on the market. It is permanent and constant in colors of the finished product, because it is made of natural materials of basic character that are unchanging. Permanent as the rock of ages. Quotations in any quantity.

**Anhydrous Pressed Stone Co.**

TELEPHONE MAIN 5278

**134 Washington Street**

**CHICAGO, ILL.**

**Millions of Concrete  
Pores Permanently Filled.**

Aquabar will permanently fill the millions of concrete pores, making a cement construction absolutely waterproof. It is the only guaranteed waterproofing compound.

It is introduced into the cement or concrete mass through the medium of water. Being dissolved in the water, Aquabar thoroughly waterproofs concrete, irrespective of the proportions of sand and cement used.

**Aquabar**

Aquabar requires no skilled labor to successfully waterproof concrete. Containing in two gallon cans, you simply dissolve one can of Aquabar into each barrel of water.

As the concrete sets, the Aquabar crystallizes, becomes harder and harder. It completely seals the voids between the sand and cement, forming an absolutely impervious construction.

Aquabar will thoroughly acid-proof concrete floors in chemical factories. Aquabar saves space and concrete by saving the necessity of constructing dwarf, retaining and resistance walls. Stucco work can be easily water-proofed with this most successful waterproofing compound.

Write our nearest branch for our two booklets and learn more about Aquabar.

**The Aquabar Company**

**1228 Locust St., Philadelphia, Pa.**

**BRANCHES AT**

Lumber Exchange, Seattle, Wash.—426 Symes Bldg., Denver, Colo.—Kansas City Life Bldg., Kansas City, Mo.—607 Chamber of Commerce, Chicago, Ill.—694 Baronne St., New Orleans, La.—Cor. Shawnee & Wyandotte Sts., Dayton, Ohio.—611 American National Bank Bldg., Richmond, Va.—Builders' Exchange, Baltimore, Md.—118 Q St., Northeast, Washington, D. C.—600 Bartlett Bldg., Atlantic City, N. J.—Builders' Exchange, 30-34 West 33rd St., New York, N. Y.—Lockport, N. Y.—Portland, Ore.—Los Angeles, Cal.—Halifax, Nova Scotia.

**Note**—We also manufacture Aquabar Wash, which can be used to waterproof building already constructed.



**A Dawn of a New Prosperity**

**PEIRCE CITY  
WHITE LIME**

**THE QUALITY LIME**

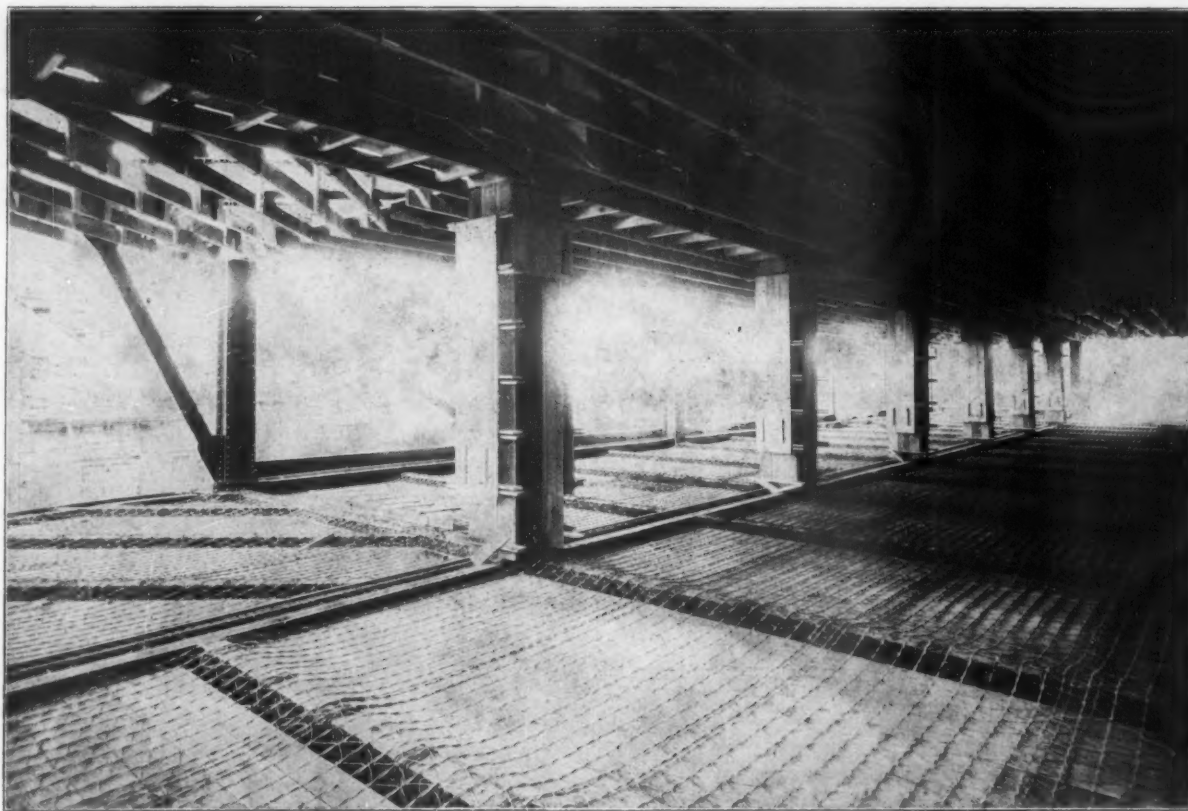
Brings prosperity to those who buy it, because it is the whitest, purest and strongest lime in the world, and sure to give satisfaction. Our barrels are made of the best cooperage, bound by steel hoops that do not break. Write us at once for prices.

**PEIRCE CITY LIME CO.**

**Peirce City, Mo.**

Tell 'em you saw it in ROCK PRODUCTS

# Triangle Mesh Concrete Reinforcement



WHITE BLDG., SEATTLE, WASH. Built by Stone & Webster Eng. Co. Triangle Mesh Reinforcement Used.

Made by  
**American Steel & Wire Co.**  
CHICAGO, NEW YORK, DENVER, SAN FRANCISCO.

WRITE FOR ILLUSTRATED PAMPHLET.



# Third Annual Cement Show

Coliseum, Chicago, February 18-26, 1910

## THE WORLD'S GREATEST GATHERING OF THE CEMENT INDUSTRIES

Exhibits of—

Press Comments about the Second Annual  
Cement Show held in Chicago, last February

### Cement World—

"The Second Annual Cement Show of the Cement Products Exhibition Co., at the Coliseum, Chicago, February 18-24, was a revelation to the hundred thousand persons who attended it. It is a remarkable fact that without exception the exhibitors sold more machinery and products than at any other show previously held and it was the universal opinion that the Coliseum Show has been firmly established as an annual market place for cement, cement machinery and allied products."

### Cement Age—

"The Second Annual Cement Show under the auspices of the Cement Products Exhibition Co., at the Coliseum, Chicago, February 18-24, was without doubt the most successful exhibition of the kind ever held in this or any other country. The attendance during the six days was estimated at seventy-five thousand. Visitors were present from every state in the Union. Exhibitors generally reported a larger number of sales than at any previous show. Sales of machinery to England, Austria and other foreign countries were reported."

### Concrete Engineering—

"The greatest exhibition of concrete machinery and Portland cement products that the world has ever seen was held in Chicago, February 18-24, under the management of the Cement Products Exhibition Co. It was the greatest show taken from any viewpoint, number of exhibitors, attendance, volume of sales and general appearance of the exhibits."

### Improvement Bulletin—

"The Second Annual Cement Show held in the Coliseum, Chicago, closes this week one of the most successful shows in this line ever held in the United States. Every arrangement was worked out to the satisfaction of all concerned and every detail added to the success of cement and all its allied interests."

### The Contractor—

"The Second Annual Cement Show at the Coliseum, Chicago, February 18-24, was probably the greatest gathering of cement industries in the history of the industry. The exhibition was looked upon as a great success by everybody present and its results for good will be far reaching and of much importance to every industry related to cement."

### Rock Products—

"The Second Annual Cement Show has just closed and it was a marvelous success from every standpoint. It was an object lesson of well organized effort to bring together all worthy developments of systems and machines for the most intelligent using of cement in greater quantities. Practically every exhibitor declares that his actual sales and future business taken on far exceeded the expectations or any past experience with cement workers' exhibitions."

### Cement and Engineering News—

"The unqualified success of the Chicago Cement Show at the Coliseum, February 18-24, was the event of the year in the concrete industry; nothing of the kind has ever been seen before."

### Engineering Record—

"The large crowds in attendance resulted in making the show a remarkable success. The most satisfactory feature was the large number of purchasers of equipment in attendance. Many of the exhibitors stated that from the standpoint of actual business done, they had been greatly repaid for the time and money involved in making their displays."

CONVENTIONS OF THE National Association of Cement Users, Chicago, February 21-25, 1910.

Richard L. Humphrey, President, Harrison Building, Philadelphia.

American Society of Engineering Contractors, Chicago, February 24-26, 1910.

George W. Jackson, President, Chicago.

Illinois Association of Municipal Contractors, Chicago, February 24-26, 1910.

A. F. Franks, President, Jacksonville, Ill.

It will pay you to exhibit—It will pay you to attend.

For information write to: Cement Products Exhibition Company, 115 Adams St., Chicago.

Tell 'em you saw it in ROCK PRODUCTS



# The Bradley Producer

## Gas Process for Burning Lime.

Four and three quarter pounds of lime to one pound of coal on a large output is now being secured every day.

**Does that look like economy to you?**

=====RESULTS GUARANTEED=====

**Duff Patents Company** **Frick Building**  
**Pittsburg, Pa.**

### MITCHELL LIME

Is Chemically Pure and Practically Free from Waste

The Strongest White  
Lime on the Market.  
Used and recommended  
by Sand-Lime Brick  
Manufacturers, Chemists,  
Soap and Glue Works,  
Plasterers and Masons.

*Prices Cheerfully Submitted*

**Mitchell Lime Company**

MITCHELL, :: :: :: INDIANA

### Western Lime & Cement Co.

MILWAUKEE, WIS.

Sole Manufacturers of **LIMATE** The first and best Hydrated Lime in the market . . .

In tensile strength for stone and brick laying and adhesive strength for plastering **Limate has no Equal!**

The thirteen lime plants of

### Western Lime & Cement Co.

Have a total lime producing capacity of 10,000 barrels daily

Distributors of Best Portland Cements and Masons Building Materials. Correspondence respectfully solicited

### Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.

MANUFACTURERS OF THE

### Celebrated Cheshire "Finishing" Lime

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slacking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

**HIGH GRADE FINISHING WORK**

Selling Department, 39 Cortlandt St., N. Y., C. J. CURTIN, Pres't.

Tell 'em you saw it in ROCK PRODUCTS

# The Ohio and Western Lime Company

WORKS AT  
Huntington, Indiana  
Marion, O.  
Gibsonburg, Ohio  
Fostoria, Ohio  
Sugar Ridge, Ohio  
Tiffin, Ohio  
Genoa, Ohio  
Limestone, Ohio  
Lime City, Ohio  
Portage, Ohio  
Lucky, Ohio  
Bedford, Ind.

MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio and Indiana White Finishing Lime, Ground  
Lime, Lump Lime, Fertilizer, Hydrate Lime,  
Cement, Plaster, Hair, Etc., Etc.

Capacity  
8000 Barrels  
Per Day

MAIN OFFICE: Huntington, Ind.

Branch Offices: Marion, Ohio.

# The Kelley Island Lime and Transport Co.

CLEVELAND, OHIO.

Tiger Brand White Rock Finish the best known and  
smoothest working Hydrated Lime manufactured.

WRITE FOR PRICES

THE LARGEST LIME MANUFACTURERS IN THE WORLD.



## "CONTINENTAL" DUMP CARS

Our Dump Cars are used on most of the large rock and dirt moving operations throughout the United States and Canada.

**Continental Car and Equipment Co.**

Works: Highland Park, Louisville, Ky.

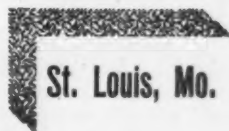
New York, 17 Battery Place



## CHARLES W. GOETZ LIME & CEMENT CO.

MANUFACTURERS OF AND DEALERS IN

Glenwood Lime, Banner  
Brand Louisville Cement,  
Portland Cements and  
Building Materials.



## FOWLER & PAY

Brown Hydraulic Lime, Austin Hydraulic  
Cement, Jasper Wall Plaster, Brick, Stone

CEMENT WORKS: Austin, Minn.  
PLASTER MILL: Ft. Dodge, Iowa  
WAREHOUSE: Minnesota Transfer

MANKATO, MINN.

# HIGH CALCIUM HYDRATE

The Best for Every Purpose where Chemically Pure Lime Is the Indispensable Element

## Sand Lime Brick

Difficulties can be Simplified and Overcome  
by the use of our Correctly Hydrated Lime.

## Cement Blocks

can be made more waterproof, cheaper, and of lighter color by the use of from 20 to 40% of pure hydrate, free from  
magnesia. This substitutes the same amount of cement and does not impair the strength of the block.

## Finishing Lime

As a finishing lime our Hydrate is unsurpassed. It is also a valuable addition to cement mortars, and for making mortar  
for brick and stone work.

Commercial and chemical requirements call for pure lime. We furnish a product of 98% analysis.

Kansas City

**MARBLEHEAD LIME CO.**

Chicago

Tell 'em you saw it in ROCK PRODUCTS

**SAVE MONEY, TIME AND LABOR**  
**USE**  
**Monarch Hydrated Lime**



If Monarch Hydrated Lime wasn't better or cheaper than lump lime nobody would buy it. As a matter of fact it is both.

Monarch Hydrated Lime costs less delivered, can be thoroughly soaked in twenty-four hours, doesn't have to be screened, carries more sand, gauges with a third less plaster, spreads further and easier and will not air slack.

That's the whole story. Now try it. Compare the cost and the results with those of ordinary lime—and we have a new customer.

Monarch Hydrated Lime is made in Carey, Ohio, where the limestone is just right and the shipping facilities good. Our prices will satisfy you.

We also crush stone for all purposes.

**THE**  
**National Lime & Stone Co.**  
**CAREY, OHIO.**

**Limestone and Shale**

FOR MANUFACTURE OF

**Portland Cement**

ON THE

**Illinois Central Railroad**

IN THE

WEST AND SOUTH

**Coal, Water and Good Labor**

For Full Particulars Address

**J. C. CLAIR, Industrial Commissioner**

I. C. R. R. CO.

No 1 PARK ROW, CHICAGO

**"IF IT IS**

**LIME**

**WE MAKE IT"**

**Lump - Barreled - Hydrated - Ground**  
**STRONGEST IN OHIO.**

**We are not connected with any Trust or Combination.**

WRITE US  
 PHONE US

**The Scioto Lime and Stone Company, Delaware, Ohio**

**PATENT SOAPSTONE FINISH**

PLAIN AND IN COLORS FOR WALLS AND CEILINGS

**Patent Soapstone Mortar**

Prepared in any Color for Laying Pressed and Enameled Brick, Stone Fronts, Terra Cotta, Chimneys, Fire Places, Etc.

**The Dodge Blackboard Material or Artificial Slate.**

**The Potter Blackboard Material.**

SOAPSTONE MICA. CONCRETE DRESSING.  
 CRUSHED, GROUND AND BOLTED SOAPSTONE.

**AMERICAN SOAPSTONE FINISH CO.**

C. P. DODGE, Proprietor.

CHESTER DEPOT, VT.

Tell 'em you saw it in ROCK PRODUCTS

**NEW JERSEY LIME CO.**



HAMBURG,  
 N.J.

MANUFACTURERS  
 OF

MEAFEE,  
 N.J.

**BUILDERS' LIME**

**CHEMICAL LIME**

**HYDRATED LIME**

HAMBURG, N. J.



**"INDEPENDENT DYNAMITE—  
Always consistent in price and quality."**



**INDEPENDENT POWDER**  
COMPANY OF MISSOURI

HOME OFFICE · JOPLIN · MO.  
FACTORY · JOPLIN · MO.  
GENERAL SALES OFFICE ·  
PIERCE BLDG. SUITE 655-67 · ST. LOUIS · MO.

1802 **DU PONT** 1909

**BLASTING  
GELATIN 100%**

For tunnel or  
open work.  
The most powerful  
explosive manu-  
factured.  
No objectionable  
fumes.

**EXPLOSIVES**

COPIRIGHTED BY E. I. DU PONT DE NEMOURS POWDER COMPANY, 1906.



# AETNA DYNAMITE

**The Standard Explosive  
Always Full Strength  
Always the Same**

**Send for new 66 page Blasting Manual**

MADE BY

**THE AETNA POWDER COMPANY**

**143 DEARBORN STREET, CHICAGO**

Bank of Commerce Bldg.  
ST. LOUIS, MO.

33 No. High St.  
COLUMBUS, OHIO

Woodward Bldg.  
BIRMINGHAM, ALA.

Mass. Bldg.  
KANSAS CITY, MO.

Torrey Bldg.  
DULUTH, MINN.

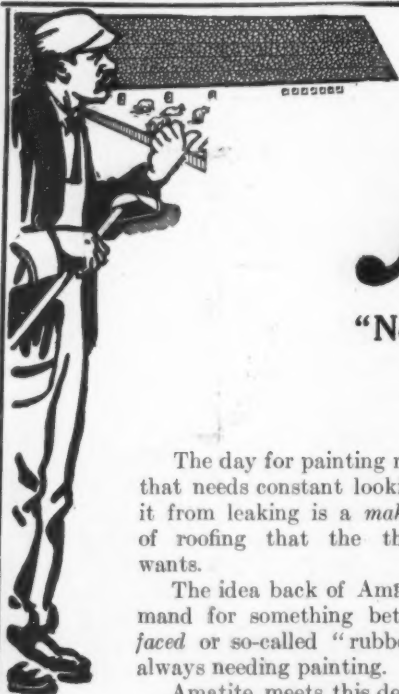
Knoxville, Tenn.

Chattanooga, Tenn.

Iron Mountain, Mich.

Xenia, Ohio

Tell 'em you saw it in ROCK PRODUCTS



# Amatite ROOFING

"No, I don't need you this year. All my roofs are Amatite and don't need painting."

The day for painting roofs has gone by. A roof that needs constant looking after in order to keep it from leaking is a *makeshift*. It isn't the kind of roofing that the thrifty, up-to-date man wants.

The idea back of Amatite was the insistent demand for something better than the *smooth surfaced* or so-called "rubber roofings," which were always needing painting.

Amatite meets this demand. You do not have to spend one cent on Amatite after it is on the

building. It *needs no painting*, because it has a *real mineral surface* on top.

Amatite is easy to lay. The nails and liquid cement for laps are furnished free, and are enclosed along with directions for laying, in each roll.

The work of putting it down can be done by anyone, as it requires no experience.

Now, a roofing that is as durable as Amatite, that is proof against everything but time itself, is surely worth investigating.

Any one of the offices below will take pleasure in supplying further information and prices.



## BARRETT MANUFACTURING COMPANY

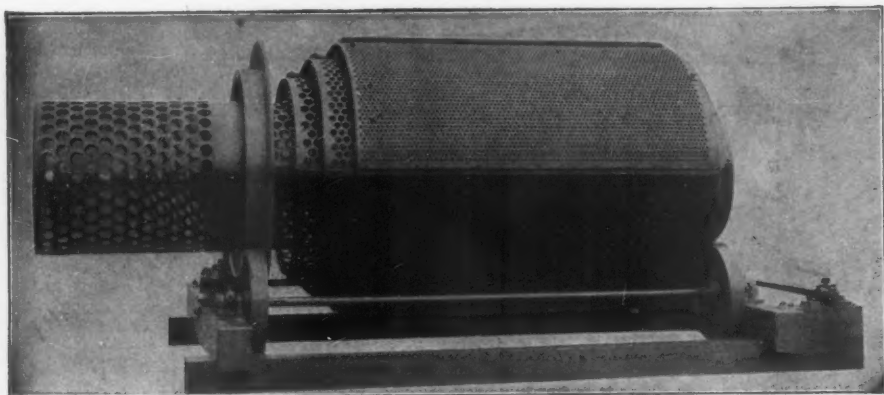
New York  
Cincinnati  
Pittsburg

Chicago  
Minneapolis  
New Orleans

Philadelphia  
Cleveland  
Kansas City

Boston  
St. Louis  
London, Eng.

## JOHN O'LAUGHLIN'S SCREEN



made solely by Johnston & Chapman is the

### ONLY SCREEN

on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area. No one can afford to keep old traps in use when the O'Laughlin installed

### NOW

will from the moment it starts give a better and larger product, and a big interest on your investment in continuous saving in cost of repairs, renewals, and power. For particulars, address:

## JOHNSTON & CHAPMAN CO.

1333 to 1345 Carroll Avenue, CHICAGO, ILLINOIS

Perforators of Sheet Metals, Flat, Cylindrical, and Conical Perforated Screen Plates for Quarries, Mines, Reduction Works, Mills and all Industrial Purposes.

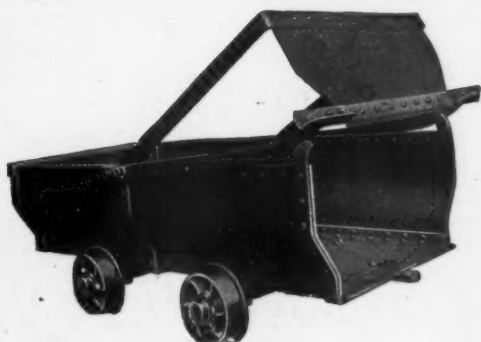
Tell 'em you saw it in ROCK PRODUCTS



## →IN STOCK!!← 8-1½ YD. QUARRY CARS

For immediate shipment similar to cut below

36"  
G  
A  
U  
G  
E



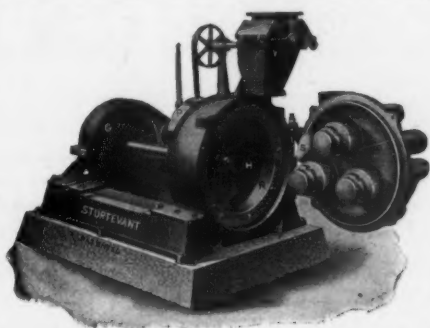
14"  
W  
H  
E  
E  
L  
S

These Cars are new all steel, equipped with self-oiling wheels and wood sub sill bumpers. Height 34" top of rail to top of car.

See catalogue No. 10-R for other types.

**H. B. Sackett Screen & Chute Co.**

4212-4226 State St., Chicago, Ill.



## A RING-ROLL MILL

working in connection with a

## NEWAYGO SCREEN

makes the simplest and most economical rock-grinding plant yet produced.

Feed, 1½ inch and Finer. Product, from 16 to 100 Mesh.

SEND FOR CATALOGUES Nos. 77 AND 79  
in which is shown its superiority in

**ACCESSIBILITY  
ECONOMY  
EFFICIENCY**

## STURTEVANT

New York  
Pittsburgh

**MILL COMPANY**  
Boston, Mass.

Chicago  
St. Louis

## Nuttall Gears



The highest development  
in the art of gear making.  
That's what they all say.

**Nuttall—Pittsburg**

*If in a hurry, wire us.*

## THE FULLER ENGINEERING CO.

DESIGNING, CONSTRUCTING AND OPERATING  
ENGINEERS, ANALYTICAL CHEMISTS

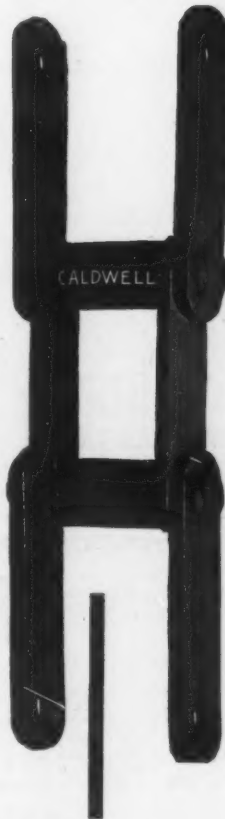
**CEMENT MILLS A SPECIALTY**

OFFICES: ALLENTOWN NAT. BANK BLDG. ALLENTOWN, PA.

# MACHINERY

—FOR—

## Industrial Plants



We manufacture machinery for transmitting power, and for elevating and conveying materials in and about cement plants, rock crushing plants, lime plants, mortar works, plaster works, and other industries.

We manufacture screw conveyors, belt conveyors, and all sorts of chain and cable conveyors, for handling rock, lime, sand, etc.

We manufacture elevators, also, for handling the same kinds of material.

Our lines include shafting, couplings, bearings, collars, pulleys, gears, rope sheaves, sprocket wheels, elevator buckets and bolts, steel elevator casings, etc.

We have our own foundry, sheet metal department and machine shop. We employ first-class help in all departments and use high-grade materials.

When you are in need of anything in our line, try us.

Catalog No. 28.

## H. W. Caldwell & Son Co.

17th St. and Western Ave., Chicago

Fulton Bldg., Hudson Terminal, No. 50 Church St.,  
NEW YORK CITY

Tell 'em you saw it in ROCK PRODUCTS



# ROTARY CEMENT LINERS.

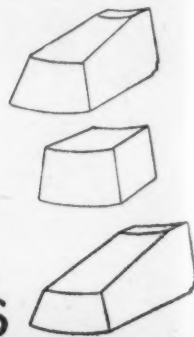


**ASHLAND FIRE BRICK CO.**  
ASHLAND, KY.

**LIME KILN LININGS.**

GROUND CLAY  
FOR  
WALL PLASTER  
AND  
BOILER SETTINGS

IRONTON CROWN.



DIRECT HEAT

## DRYERS

FOR

BANK SAND  
GLASS SAND  
ROCK, CLAY  
COAL, ETC.

All Mineral, Animal and Vegetable Matter.

We have equipped the largest plants in existence and our dryers are operating in all parts of the world. Write for list of installations and catalogue S. C.

**American Process Company**

68 William Street,

NEW YORK CITY

RUGGLES - COLES

## DRYERS

RUGGLES-COLES ENGINEERING CO.

NEW YORK

CHICAGO

## The Cummer Continuous Gypsum Calcining Process

See Other Advertisements, Page 15

THE F. D. CUMMER  
& SON CO.  
Cleveland, Ohio.

Seven plants in successful operation producing about 1,500 tons per day.

## THE WINANT COOPERAGE CO.

Staves, Hoops and Heading for Lime,  
Cement and Plaster Barrels

MILLS:  
Pennsylvania New York Maine  
Virginia Ohio

190 CEDAR STREET  
NEW YORK, N. Y.

"We are pleased to say that the returns from our Rock Products advertising have been very gratifying.

Very truly yours,  
N. J. Morehouse,  
Waterloo, Iowa."

Extract from letter.

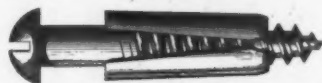
### For Immediate Shipment—New and Rebuilt Machinery

One rebuilt Western Wagon Loader.  
Gyratory and Jaw Crushers of all kinds and sizes.  
One Steam Hoist complete with Cable and Derrick Irons.  
Two 12 H. P. Russell Traction Engines.  
One 30 H. P. Stationary Randall Engine.  
One 12-ton Iroquois Steam Roller.  
Headquarters for Sterling Wheel Barrows, Concrete Mixers, Rollers, Dump Wagons, Scrapers, Quarry and Gravel Pumps.

Write for Catalogues and Prices.

**The Williams Contractors Supply Co.**  
COLUMBUS, OHIO.

### Farrington Expansion Bolts



The most secure fastening in concrete as well as in stone.  
Send for Samples.

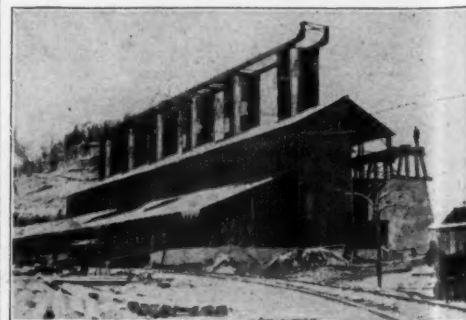
H. Farrington, 45 Broadway, New York

## C. K. WILLIAMS & CO. EASTON, PA.

The Largest Manufacturers in the U. S.

**BRICK AND MORTAR  
COLORING**  
OF ALL SHADES

CORRESPONDENCE SOLICITED. SAMPLES AND ESTIMATES  
CHEERFULLY FURNISHED ON APPLICATION.



Lime Kilns and Plant of Blair Limestone Co.,  
Canoe Creek, Pa.

Designed by

**Henry S. Spackman Engineering  
Company**

42 N. 16th Street

Philadelphia, Pa.

Tell 'em you saw it in ROCK PRODUCTS

# ROCK PRODUCTS

ESTABLISHED IN LOUISVILLE, KY., 1902.

DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

Volume IX.

CHICAGO, SEPTEMBER 22, 1909.

Number 3.

Publication day, 22nd of each month.

## THE FRANCIS PUBLISHING COMPANY

EDGAR H. DEFEBEAUGH, PRES.

Seventh Floor Ellsworth Bldg., 355 Dearborn St., Chicago, Ill., U. S. A.

Telephone Harrison 8086, 8087 and 8088.

### EDITORS:

EDGAR H. DEFEBEAUGH.

FRED K. IRVINE.

### ASSOCIATE EDITORS:

BENJ. F. LIPPOLD.

HENRY C. WHITTAKER.

BERNARD L. McNULTY.

Communications on subjects of interest to any branch of the stone industry are solicited, and will be paid for if available.

Every reader is invited to make the office of Rock Products his headquarters while in Chicago. Editorial and advertising copy should reach this office at least five days preceding publication date.

### TERMS OF ANNUAL SUBSCRIPTION.

In the United States and Possessions and Mexico.....\$1.00  
In the Dominion of Canada and all Countries in the Postal Union.....1.50  
Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.  
Advertising rates furnished on application.

Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.

Wholehearted coöperation with your customer makes friendly transactions.

The great new southwest is booming and building and improvement is very active.

Canadian cement manufacturers have formed a consolidation practically representative of the entire industry of the Dominion.

If you do not treat people with courtesy who come to see you, how do you expect other people to receive you with open arms?

Plastered surface treatment of exteriors is the great coming feature of residence designing in the immediate future. It is in fact already here in big numbers.

President Taft expresses unlimited confidence in the new tariff. The business men of the country enjoy the same feeling without regard to the tariff, now that the thing is settled for the time being.

Plaster contractors are having a very busy period just now. In fact, the whole plaster industry, from the mine to the finisher's float and trowel, is feeling the beneficial effects of activity.

The consumption of Portland cement in the present year will amount to no less than 61,000,000 barrels. Present activity is rapidly piling up this enormous and record-breaking aggregate.

Lime kilns fired with producer gas have made good; and hydrated lime the great American improvement of the venerable industry is the main successful and popular product of the present and the future.

The first rainy day that comes along, just put in the time by carefully reading what the advertisers in ROCK PRODUCTS have to say to you. There is no doubt that you will find it very profitable to apply many of the suggestions contained therein to your own business.

The crushed rock producers are too busy to say a word. Everything in the shape of a rock breaker is running to capacity. What with the road builder's contracts and the concrete man's needs, to say nothing of street paving, it is all a matter of getting deliveries, no matter about the price.

Every business organization should discuss and take up the waterway transportation movement. Let us have such a large gathering at the annual meeting in New Orleans that the people will be taken off their feet and the government will let loose with some of their money and improve the water-ways.

Automobile delivery trucks are having very favorable consideration by the leading establishments engaged in the retailing of building supplies. They only have to be fed when they are at work, and require no attention on Sundays and holidays. If these were the only advantages it would be well worth consideration.

The concrete drain tile has steadily gained in popularity, and won the confidence of tile users in spite of the doubts that were entertained at the time of its introduction as a merchantable product. Like every new material, it has been improved by practice and experience until it fills very satisfactorily all the requirements put upon it.

The governor of Louisiana is alive to the importance of good roads in developing the highways of that state. It is a country without rock or other good road building materials. Gravel concrete roads will doubtless be the solution of the present interest that has been awakened. The same suggestion applies to several of the southern states.

Better equipped sand reclaiming plants can be credited in no small measure to the consistent promotion of ROCK PRODUCTS, the first journal to advocate improvement in the preparation of this very important and indispensable material. Our sand studies have always been brief descriptions of practical operations, and there is much progress noted with each succeeding season in this line.

No supply establishment can lay claim to being up-to-date unless it carries a line of the well established specialties, such as waterproof coatings for concrete surfaces, waterproof compounds for mixing into the concrete mass, motor colors for plaster and concrete mixtures, reinforcing steel and wire fabric, steel corner beading, and iron columns, joist hangers, etc. All of these supplies have a larger margin of profit than the staples of cement, lime, plaster, face brick and other clay goods, and really make the dividends of some of the soundest concerns in the country.

The best type of fireproof building is one built entirely of materials that cannot be made to burn. It is quite convenient at the present time to select materials of this character, even to the window sash, mullions and all. What is more to the point, such selections can be made without adding to the cost to any great extent. This kind of building will gradually be adopted as fast as the old habits of designers can be overcome. The people are waking up faster than the master builders and the designing architects, and it's the will of the people that rules in this as in everything else.

Don't overlook the farmer customer for supplies. He happens just at this time to enjoy the eminent distinction of being "the man with the money." He needs a silo, probably, and drain tile, building blocks, plaster, lime and cement for many new uses that have lately been developed. If you are in a position to stand for a little more prosperity—a bigger and growing business, take a hitch in your mainspring by cultivating salesmanship and go out after the farmer's money, giving him value received for it. You will be doing him a favor and get well paid for your efforts.



## EDITORIAL CHAT

Fred G. Langner, of the Mostberger-Langner Iron Company, of Buffalo, N. Y., manufacturers of the Buffalo Brick Clamp, was a Chicago visitor. He says that business all over the country is looking up and that there is an immense amount of building going on. He reports business with his firm as more than good.

One of the best fish stories we have heard this season is the one which has come down from Minneapolis regarding the piscatorial feats of a party of builders' supply and cement men who went fishing at Parker Lake, just out of Minneapolis, recently. C. H. Bicknell, president of the Lauders-Morrison-Christenson Lime & Cement Company, was snapped just after he had made a luck haul of frogs to be used afterwards to catch the finny tribe. Fifty pounds of black bass were caught, and also several other fish. The occasion was a memorable one. Among those in the party were Messrs. Bicknell, Smith, Lauders, Van Doorn and Brown.

Chas. H. Claiborne, sales manager of the Union Mining Company, of Baltimore, has recently been visiting the gas works of the central west. He reports good business through Michigan for the whole line of refractories used in gas making.

George H. Keyes, of Louisville, who sells Aetna powder to the quarrymen of that district, says there is plenty doing with the rock crusher, lime and cement works.

Dr. E. W. Lazell, technical expert of the Charles Warner Company, Wilmington, Del., enjoyed a short vacation recently in Wisconsin. Amongst his many accomplishments he is a successful fisherman, for he tells it modestly.

E. D. Boyer, the cement expert of the Atlas Portland Cement Company, met ROCK PRODUCTS in New York the other day. He was cheerful and cordial, but very busy, as all the cement men are these days.

Reports from the canal zone indicate that the engineering work is progressing very rapidly around the Culebra cut and the adjoining locks. At the rate that concrete is being deposited it would seem that a great showing is being made. Lack of sand for the concrete mixture is one of the greatest drawbacks. There is practically no natural sand available, all that is used must come from the rock crusher dust, and this is inadequate without great waste. The rock is said to be of two distinct types, one with granite characteristics, and the other a hard crystalline limestone, marble-like in texture, but fragmentary.

The National Rivers and Harbors Congress will meet at New Orleans on October 30 to November 2. The President of the United States, many of the governors of the states of the Mississippi basin and the members of commercial organizations will participate in the occasion, as usual. The waterways improvement enthusiasm will be quickened and the progress of the plans to get down to actual operations will be discussed. The local committee of the Crescent city are making extensive preparations to entertain the hosts of public-spirited leaders.

E. Meyer, sales manager of the Edison Portland Cement Company, headed a party of interested engineers, architects and contractors from Philadelphia and vicinity for a visit to the company's plant at New Village, N. J., on September 18. Thomas A. Edison was on hand to receive the party and personally to do the honors of the occasion. It was a very enjoyable affair.

Walter Jahneke and family, of New Orleans, have been taking an extended vacation outing in New England and Canadian summer resorts. The building activities of his home city are more active in winter than in the summer months, which accounts for a building material man being away from his business in summer.

F. A. Washburn, superintendent of the Richardson Silk Company, Belding, Mich., is an enthusiastic advocate of concrete, and believes there are wonderful possibilities for this material.

Dr. Charles B. Dudley, of Altoona, Pa., president of the American Society for Testing Materials, and delegate to the International Association for Testing Materials, held at Copenhagen, Denmark, last week, has cabled that the next congress of that body will be held in the United States.

Louis J. Buchheit, manager of the Mitchell Lime Company, Mitchell, Ind., was a recent Chicago visitor. He says the lime business has been very good the whole season for the chemically pure goods for which his concern is noted.

H. A. Johann, from High Bridge, N. J., stopped long enough to say "Tisco," which, being interpreted, means the famous manganese steel castings for crushing and grinding parts, made by the Taylor Iron & Steel Company.

Harry B. Warner, secretary of the Maryland Portland Cement Company, of Baltimore, paid his Chicago friends a visit this month while on his vacation. Mrs. Warner accompanied him, and their trip included Buffalo, Niagara Falls and Mackinac Island.

Samuel H. French & Company, of Philadelphia, began to handle English made Portland cement in 1844. R. W. Hillis, the sales manager who now distributes Dexter Portland cement, considers his concern the original Portland cement house, and would like to know if anyone can antedate this record.



C. H. BICKNELL, OF MINNEAPOLIS, CATCHING FROGS.

E. Chapple, manager of the Ballou Manufacturing Company, Belding, Mich., reports a good season for the Little Giant concrete mixer and the "Marvel" air-cooled gas engine. They are receiving many foreign orders, and have sold the output of their gas engines for ten years.

### Concrete Work Progressing at Panama.

The discovery of coal and petroleum deposits estimated to be worth in excess of \$500,000, in Panama is directing attention to the resources of that region.

Good progress is reported as being made in the Miraflores locks of the canal. The concrete work on the cement shed is entirely finished and 60,000 bags of cement are at present stored in it. The building has a capacity of 200,000 bags. Cement testing machines and other machinery used in the work have been installed in the storehouse office. Concrete work on the Gatun and Pedro Miguel locks has begun. The first concrete work on the former was laid August 24. It is being placed in the foundation of the center wall, which will divide the two south or upper locks. On the latter the work was begun in the center guide wall at the lower or south end, September 1.

On the latter work a temporary mixer is being used, having a capacity of only twelve and a half cubic yards of material per hour, pending the completion of the stationary plant, which will have a capacity of 900 cubic yards per working day.

The plant for mixing at Gatun lock site has a maximum capacity of 1,920 cubic yards of concrete in eight hours. It is estimated that 2,096,000 yards of concrete work will be laid on this lock, which in-

cludes the locks and approach walls, and it will take approximately 2,250,000 barrels of cement for the work.

At Gatun there will be six locks, in three pairs, which will make a raise from sea level to 85 feet above sea level. Each lock will be 110 feet wide, and have a usual length of 1,000 feet, and will have 41½ feet of water over the sills when the surface of Gatun lake is at the normal height of 85 feet above mean sea level.

### Waterways Board on Rhine.

COLOGNE, Sept. 14.—The American flag flying from a Prussian Government steamer on the Rhine has created considerable inquiry along the river and brought out the explanation that the Government was thus honoring the members of the American Waterways Commission, who are studying the river improvements with the aid of a body of German engineers assigned to facilitate the work.

The Commissioners spent all of last week on the Rhine, taking up each section of the river in detail. They were received by the Acting Mayor of Düsseldorf at the wharf, where a number of American flags were displayed, and welcomed to the city in an address, to which Senator T. E. Burton of Ohio replied.

The Commission has been investigating water traffic economy at Duisburg, Dortmund and the Ems Canal. The famous canal system of Holland and Belgium will be carefully examined, and then French canal improvements will be studied in the same exhaustive manner.

The data collected by the American Waterways Commission will have an important bearing upon the great national system of waterways and canal improvements about to be commenced in this country. Their report when published will make very interesting reading upon the most important feature of internal improvement now before the American people.

### Fulton Exhibit, Engineering Societies Building.

NEW YORK, N. Y., Sept. 18.—The Hudson-Fulton celebration is essentially a recognition of the explorer and the engineer. To show the relation of the latter to the celebration, models of the Clermont and other early steamboats, through the courtesy of the Smithsonian Institution, are now on exhibition at the rooms of the American Society of Mechanical Engineers in the Engineering Societies Building, 29 West Thirty-ninth Street. The exhibit includes the Clermont, the Phoenix, built by John Stevens, and one of John Fitch's early types. Original drawings by Fulton, an oil portrait of Fulton, painted by himself, Fulton's dining table, oil portraits and bronze bust of John Ericsson, models of the Monitor, all owned by the society, and Ericsson's personal exhibit at the Centennial Exposition, are also exhibited. Through the courtesy of the Hamburg-American Line, a beautiful model of the Deutschland shows the highest type of the development of steam navigation.

The model of the Clermont represents the boat as she was on her first trip before undergoing alterations to fit her for regular passenger service. The model of the Phoenix shows that boat at the time of making the first sea voyage ever made by a steam vessel. The trip was made in 1809, leaving New York on June 7 and arriving in Philadelphia on June 17. Fitch's boat was built in Philadelphia in 1786 and successfully tried on the Delaware River. In 1790 a similar boat carried passengers and freight on the Delaware River for several months.

The exhibition will be open to the public every week day from 9 a. m. to 5 p. m.

### Gain In Building For August More than a Third

One of the significant features of the situation is the fact that out of the fifty cities, only eleven show decreases, while thirty-nine have remarkable increases. The increases are so general and so large that it is scarcely worth while to attempt analysis, while the decreases in cities which have shown remarkable activity in building heretofore are so widely scattered that they have no important bearing in the matter. The most significant decrease probably is that of Chicago, where in August, 1908, permits were taken out for 992 buildings, involving a total cost of \$5,641,050, against 894 buildings aggregating in cost, it is estimated, \$4,801,650 for the month just closed, a decrease of about 15 per cent, but the fact of the matter is that the increase for the preceding months of the year has been upon such an enormous scale that a lower level was to be expected, inasmuch as the totals for 1909 are now upon a par with the entire twelve months of last year. It is not surprising, also, to find a decrease of 37 per cent in Seattle, for the reason that that city has been the scene of unusual activity during the past few years.





## The National Builders' Supply Association

Meets Annually.

### OFFICERS.

Frank S. Wright, Chicago.....President  
Harry W. Classen, Baltimore.....Treasurer  
James W. Wardrop, Pittsburg.....Secretary

### STATE VICE-PRESIDENTS.

Arkansas.....Charles E. Taylor, Little Rock  
California.....G. J. Waterhouse, San Francisco  
Delaware.....Charles Bye, Wilmington  
District of Columbia.....S. D. Lincoln, Washington  
Georgia.....P. O. Hanahan, Atlanta  
Indiana.....H. B. Lyman, Lafayette  
Illinois.....H. H. Halliday, Cairo  
Iowa.....R. Hay, Dubuque  
Kentucky.....Owen Tyler, Louisville  
Louisiana.....John J. Voegel, New Orleans  
Maryland.....J. J. Kelly, Baltimore  
Massachusetts.....B. F. Marsh, Worcester  
Michigan.....S. J. Vail, Detroit  
Missouri.....Howard McCutcheon, Kansas City  
Minnesota.....F. J. Nixon, Duluth  
New Jersey.....Ambrose Tomkins, Newark  
New York.....M. A. Reeb, Buffalo  
Ohio.....E. S. Walton, Youngstown  
Pennsylvania.....Cyrus Borginer, Philadelphia  
Rhode Island.....C. M. Kelly, Providence  
South Carolina.....A. G. Gower, Greenville  
Tennessee.....W. W. Fischer, Memphis  
West Virginia.....R. W. Marshall, Wheeling  
Wisconsin.....R. C. Brown, Oshkosh  
Washington.....S. W. R. Dalley, Seattle

### EXECUTIVE COMMITTEE.

James G. Lincoln, Boston; Walter F. Jahnke, New Orleans;  
A. E. Bradshaw, Indianapolis; Gordon Willis, St. Louis; V. H.  
Kriegshaber, Atlanta; J. C. Adams, Pittsburg; Charles Warner,  
Wilmington, Del.

Official Organ, ROCK PRODUCTS

### National Association to Meet In Chicago.

The Executive Committee of the National Builders' Supply Association at its recent meeting held at Lake George, N. Y., decided to hold the eleventh annual convention in Chicago in February as near as possible to the dates of the third annual cement show, which are February 18 to 26, without interfering with that occasion.

President Frank S. Wright will investigate hotel accommodations, etc., and later announce the exact dates, which will appear in this column as soon as the arrangements are completed. The quorum present at the meeting consisted of the following: Frank S. Wright, president; James W. Wardrop, secretary; James G. Lincoln, Charles Warner, J. C. Adams, Walter F. Jahnke.

The executive committee by invitation held a joint conference with the executive committee of the Association of American Portland Cement Manufacturers, which body was holding its regular quarterly meeting at Lake George at the same time. Naturally those matters of mutual interest between the cement manufacturers and the retailers were discussed, and both branches of that great industry were well represented with able advocates, and without doubt to the benefit of all cement manufacturers and all retailers of supplies wherever located in this country. Of course the membership of the two organizations will have the first detailed information of such a joint conference.

Just about the same time the National Cement Users Association, the Concrete Contractors, the Society of Civil Engineers, and many similar organizations will hold their midwinter conventions in Chicago. All the important organizations of technical influence, and the building material interests of the nation will for the first time in history be assembled in one place together.

Without question this will be the most significant and important occasion for any man interested in any way in materials and construction to attend. The enterprise, progress and downright educational advantages of this red letter period next February can hardly be overestimated. No man who handles materials can afford to miss the next meeting, as it will surely have the effect of making his own individual business worth more money, and this will show up plainly in the dividends immediately following. Make arrangements now to be at the grand rally of the material and construction interests of America, all you who already have to hold or hope to get a piece of it.

### Program of the Eleventh Annual.

That live wire, the National Secretary, James W. Wardrop, of Pittsburg, says: "It has been decided to hold the eleventh annual convention of the N. B. S. A. in Chicago during the all-absorbing material and construction concentration there next February. Without doubt there will be assembled the largest gathering of retail handlers of builders' supplies ever seen. The program is now under consideration and is being drawn so as to be entirely practical without any frills or unnecessary ornamentation: Practical papers by practical men, who have and are achieving things that other men in the same line can adopt and put into action. The eleventh is to be distinctively a "promotion" convention, the individual and collective promotion of the business of the men who attend and participate in the occasion.

"Along the broad lines of the National's well established policy the invitation is broadcast for every man who handles supplies, be he small or great, to come to the meeting and get a share of the benefits.

"All the meetings of the convention will be open



WM. A. FAY, OF CLEVELAND BUILDERS' SUPPLY COMPANY.

alike to active and honorary members, and free and open discussion of trade conditions as they really are will be the order of exercises. 'We give and ask a square deal' in every transaction, is the watchword and the motto that has been nailed to the masthead. Whoever comes with the qualification is entitled to encounter the same response, because it is equity which is the only profitable principle of doing business, and will always prevail in the long run."

### Extensive Establishment In Cleveland.

The Cleveland Builders' Supply Company, with general offices on the seventh floor of the Garfield Building, is one of the largest concerns and one of the most important factors in its line of business in the country.

The Masons Supply Company and the Kelley Island Lime & Transportation Company merged their Cleveland retail business about the first of May last. Then these merged concerns purchased the Cleveland Builders' Supply Company and organized a new company under the old name of 'The Cleveland Builders' Supply Company, with a capitalization of \$500,000.

The officers of this new company are: Caleb E. Gowen, president; E. W. Reaugh, vice-president; W. A. Fay, secretary and general manager, and A. Y. Gowen, treasurer.

The company operates seventeen warehouses located in different parts of Cuyahoga County. Operates a plaster mill on Merwin Street. This plaster mill is one of the finest in the country, and has a large capacity of turning out what is favorably known throughout the middle states as the "C. B. S." brands and Kling's hard wall plasters.

The concern owns and uses over two hundred head of horses.

The Cleveland Builders' Supply Company's object was to keep down prices, and by reason of throwing

the three businesses together under one management, thus cutting down enormous operating expenses, it has been enabled to reduce former prevailing prices in Cleveland.

It commands a very extensive wholesale as well as retail business in Cleveland and throughout the states of Ohio, Pennsylvania and West Virginia.

### Don't Wait.

The trouble with the average dealer in the small towns and some of them in the large cities as well is that they want to unload their cement direct from the cars to the job. It is certainly a fine way to do business, as it necessitates only one handling, but it is not always safe for the dealer to wait till the last minute to place his order, especially now that the cement plants are getting to the point where shipments cannot go forward always on the day the order is received, as they have been doing for some time past. Another feature to be taken into consideration is the probable car shortage, which seems imminent in many localities.

The average small dealer has only a small storage capacity and therefore cannot carry any great quantity of stock, but we would advise him from now on to order his cement further in advance than he has been doing in the past or he will find himself short.

### Gives Good Advice.

A. E. Bradshaw, president of the Indianapolis Mortar and Fuel Company, one of the best known dealers in building material in the Hoosier capital, sends in the following interesting letter, which should appeal to every retailer in this country:

Some months since, in an unguarded moment, while attending a meeting of the Executive Committee of the National Builders' Supply Association, due to my faith in the organization, I agreed to write something for publication in the September number of ROCK PRODUCTS. As soon as I realized the mistake that I had made, I then hoped that no one would ever think of the matter again, but this is a vain hope, as Mr. Wardrop, secretary of the National Builders' Supply Association, has not permitted me to forget the promise so long as one minute, and in today's mail I have this final reminder winding up with, "It's up to you—now make good."

I have so often really seen good fellows punish audiences with speeches and papers that I long since resolved that I would never be guilty; for if there is any one thing that I do know well, it is that I cannot make a speech or write an article for publication, as you have by this time discovered.

Now I am a good listener and reader, and I get my benefit out of the National Builders' Supply Association by listening to the other fellow and reading what he writes, and I always, in private conversation, gladly impart any information I can to my fellow men in the same line of trade.

Some six years since, when the National Builders' Supply Association met in Indianapolis, A. B. Meyer, then as well as now, the largest builders' supply dealer in Indiana, invited me to join the association, which I did, and I have never regretted it for one moment. After some six years' experience as a member of the National Builders' Supply Association, during which time I have attended every annual meeting except one, I am of the opinion that every dealer in the United States could not make a better investment than to join the association and attend every annual convention, if by so doing he gained nothing at all except the acquaintance and association with his fellow men in the builders' supply business.

If you have attended any of the annual conventions or read the proceedings, you know that the largest, most prosperous, shrewdest and keenest builders' supply dealers from Boston to St. Louis and from New Orleans to Minneapolis attend these meetings. Why? They are all good, healthy fellows. They don't attend to get something good to eat or drink; they can all get better at home. They attend solely because they are benefited by so doing, and if the big fellows are so benefited, why can't we little fellows get some of the good?

I repeat, that if you get nothing but the acquaintance of your fellow men, it will pay every dealer in the United States to join and attend. I don't believe a man can succeed to any large extent in the builders' supply business without being broad-minded. The very nature of your business, the variety of material you handle and the wide range of character of the contractor all call for a broad-minded man. Who ever heard of a broad-minded builders' supply man who held his office chair down year in and year out? No indeed, you will find the broad-minded fellow in attendance at the trade conventions. He is the fellow that I like to know and come in contact with, and it will do you all good to meet such fellows, and before you realize it you will be one of them.

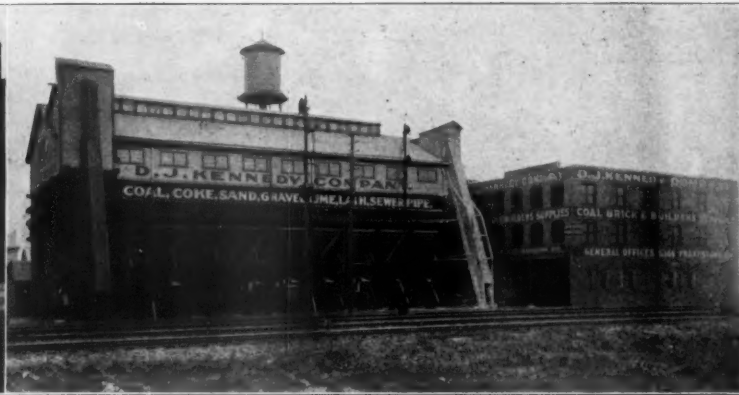
This is only one of the numerous reasons why you will be benefited by joining the National Builders' Supply Association and attending the meetings.

### For Torn Bags.

How many men of bags are there who keep a record of their bag losses, due either to torn or torn bags? It is safe to say there are very few, and those who do charge this item to a general account. Many bags returned are wholly unfit for use again and yet hundreds of bags come back to the retailer with but a small tear in them, which if repaired could be again used. Some firms have a bag patching department, where men are employed to sew on patches, others



NORTH SIDE WAREHOUSE.



VIEW EAST LIBERTY YARD.

send bags out to be repaired and pay for them by piece work. It is disagreeable work and few people can be secured who will do this work.

The C. H. Little Company, of Detroit, Mich., large retailers of builders' supplies, had this important question to deal with and had a large department in their business devoted to the care of bags. Necessity forced them after years of experiment to invent a more economical and quicker system of repairing bags. They found a liquid material which could be applied with a brush and the patch pasted on in such a way as to make it permanent. They found that the thread used to sew a patch on readily pulled out and was a constant annoyance.

The cement used proved such a success they discovered their cost of repairing torn sacks and bags reduced 90 per cent. They decided to give other users of bags the benefit of their experience and have put on the market "Little's Sack Patching Cement," which is sold in small or large quantities. Any user of bags has his troubles with torn sacks, and a cheap and permanent way to repair them is secured by using this material.

#### Prominent Pittsburg House.

The D. J. Kennedy Company, Pittsburg, Pa., is one of the most extensive and well known establishments handling builders' supplies and fuel in this country. It was founded in 1879 by D. J. Kennedy, who was then 19 years of age, and using two carts for delivery purposes, which constituted practically the entire equipment. From this small beginning has grown the very large enterprise which now comprises no less than six separate establishments, being warehouses and yards with modern equipment and requiring more than 100 teams for the delivery of building materials during the construction season of the year and in delivering fuel throughout the winter months.

For more than twenty years J. C. Adams has been associated with Mr. Kennedy, and both of the gentlemen at the head of this great supply concern are well and favorably known throughout a very wide

territory immediately tributary to Pittsburg, in western Pennsylvania, West Virginia and eastern Ohio. The concern represents the Lehigh Portland Cement Company, Blanc Stainless Cement Company, and handle lime and plaster on an extensive scale. At their plants they manufacture hard wall plaster, besides brick and sewer pipe. They handle the full line of clay goods, the specialties such as steel reinforcing, waterproofing for concrete and brick and cement coatings. They manufacture a face brick which is shipped to all parts of the country and operate extensive coal mines of their own, located on the Pennsylvania railroad within twenty-three miles of the city of Pittsburg.

Herewith are illustrated several of the principal properties of the company. The Enterprise street property is one of the best equipped builders' supplies depots in the country. Heavy materials such as crushed rock, lime, sand, gravel, cinders, anthracite and bituminous coal and coke are dumped into pockets located beneath the railroad track. These pockets are constructed of reinforced concrete, and discharge by gravity upon bucket conveyors, which automatically deliver the materials to bins located in the building. The bins are provided with openings at the bottom in such a way that the teams are driven under the chutes for loading, and a maximum of two minutes per load is the time required to place three to three and one-half tons of such materials on the wagon.

Besides the properties illustrated they have a very large yard at the extreme eastern boundary of the city, next to the suburb of Wilkensburg, where they have a plant for the manufacture of hard wall plaster and the grinding of lump lime in connection with the regular lime supply. The yard at this point contains about 80,000 square feet and has 1,200 feet of track room, one track upon an elevated trestle and the other a surface track. There is also a large warehouse building constructed upon the depot plan.

Another property not illustrated is located on the Allegheny river at Twenty-sixth and Railroad streets. Here sand from the river is loaded from barges for delivery by drays, and also for shipment

in cars to the other yards of the company and to the jobbing trade of the surrounding district. This yard is reached by both the Baltimore & Ohio and the Pennsylvania railroad tracks.

All the yards and warehouses of the company have been carefully located with regard to loading and unloading facilities, and the company has enjoyed a constantly expanding business for years, and the present year has exceeded all previous records.

#### In the Great Cotton Town.

FALL RIVER, MASS., Sept. 17.—The supply business of this city is represented by two very enterprising concerns.

W. M. Pettet, whose offices and yards are located on the tracks of the New Bedford railroad, with a distributing station on Pleasant street, handles Atlas, Saylor's, Nazareth and Alpha cement, brick from the Long Island yards and a full line of sewer pipe and other clay goods, and Berkshire lump lime in barrels and bulk.

Borden & Remington Company have their warehouses and yards at the water front and receive their brick from Long Island by schooner cargoes. They handle Rockland-Rockport lump lime in schooner cargoes, Lehigh and other cements and a full line of builders' supplies and specialties.

Both of these concerns remark that business has been rather quiet during the present season, although a noted improvement has been observed in the past month.

#### A Successful New Chicago Firm

Walter L. Woods, president-treasurer of the Standard Material Company, whose office and yard is located at Sixty-sixth Street and Lowe Avenue, states that trade has been good with them ever since the Standard Material Company was organized. They are now doing all and more business than could be expected, and Mr. Woods looks for even better conditions to prevail till winter calls a halt. The rush is now on. Prices are firm and the market is steady.

ELEVATED BINS. EAST LIBERTY YARD.  
EARLY MORNING.ENTERPRISE STREET WAREHOUSE.  
D. J. KENNEDY COMPANY, PITTSBURG, PA.





WAREHOUSE OF THE STANDARD MATERIAL COMPANY, CHICAGO.

All commodities in which steel is used are advancing steadily. The demand for cement has been constant, and Mr. Woods looks for an advance in price at any time. They handle everything in the building material line, and have ample room for accommodating immense stocks. Six thousand barrels of Portland cement can readily be taken care of by them. Situated on the Belt Railway, they have every facility of shipping to all parts of the country without being put to the expense of hauling; also by its means they can throw their goods to any part of the city. 'Tis a pleasure to do business with Mr. Woods. Courteous treatment is always appreciated, and this is the invariable rule with the Standard Material Company. Prompt delivery and giving goods as represented, at honest prices, he states have been the means of acquiring the large trade they now possess. We give herewith a cut of their office, showing only a small portion of their warehouse, which contains thousands of square feet. M. E. Van Frank, the secretary, is a thoroughly competent and experienced man. The company has been in existence not quite a year, and yet in that short time they have chained Success to their chariot wheels. The firm consists of Walter L. Woods, president-treasurer; Christian Becker, vice-president, and M. E. Van Frank, secretary.

#### Modern Methods in the Builders Supply Business.

By J. C. ADAMS.

In this age of keen competition probably nothing counts for so much in the retail builders' supply business as a thoroughly organized and properly equipped office, warehouse and delivery system.

System, however, to be of benefit, must be applied intelligently. To start with, a builders' supply office should be kept in order if efficient work is to be expected of the employees. There is no more reason for a builders' supply office to be smeared over with lime, cement, etc., than there is for a restaurant to have a sample of each kind of soup, egg, etc., on the bill of fare or table cover.

It is not my purpose to go into the details of each department of an ideal office and its system, but I desire to offer a few suggestions that have come to my observation in the past twenty years in the business.

One of the important things is the proper means of ascertaining accurate credit information with reference to the standing and ability of customers to furnish the necessary legal tender in exchange for the commodity sold, and not only securing the information but in having some convenient method of filing it so that it may be readily accessible for future use.

First, with reference to the information. The large commercial agencies are usually able to furnish in a reasonable time information on the larger trade, but for strictly retail trade, made up generally of small contractors, better information is usually gotten from a local bureau.

In Pittsburg we have a credit association whose members are in the building material business only, in one form or another; such as lumber dealers, brick dealers and manufacturers, builders' hardware and builders' supply dealers. A secretary is employed who is able to get the experience of the membership in a surprisingly short time after application is made for information about any prospective customer.

Information is asked for and given over the telephone to avoid delay, but is confirmed in writing at once. The daily court records usually have some information that has some bearing upon the credit risk of some present or prospective customer, and it is well to note such items. It takes but a moment each day to make a check mark opposite each name that is of interest and pass the sheet over to your stenographer or a clerk, who can write off the name and the nature of the suit, judgment, mortgage, or whatever it may be, for the credit file of the party affected.

I have found that a folder made on the plan of an envelope, with both ends clipped off, is a very convenient way to handle credit reports; or, in fact, any information that would have a bearing upon the credit standing of any present or prospective customer. The name and address, and any other data for quick use, may be entered upon the flap and all the reports, etc., pasted inside, and the folders filed alphabetically in a vertical file.

Another important thing it seems to me, is a perpetual inventory so that it is not necessary to take stock each month in order to ascertain the result of the month's business. This can be handled with very little extra labor by taking into both buying and selling records quantities as well as values. The stock of any commodity on hand at the first of any month, plus the purchases of a commodity for the month, less the sales, is the stock on hands at the end of the month in any warehouse.

Now, with regard to the yard and warehouse equipment. Why should not the yard and warehouse of a builders' supply dealer be kept in as orderly a condition as the yard or warehouse of any other reputable business? A place for everything and every-

thing in its place. It does not cost much to keep lime, cement, mortar color, sand, etc., cleaned up and very often there is a real saving. Besides, the men in charge of the place are more likely to appreciate, if it is only a bushel of sand or a peck of cement, that it has some value. Some builders' supply yards bear a great resemblance to the picture the school teacher made on the blackboard in an endeavor to give her boys a definite idea of what a volcano is.

Taking some red chalk she drew fiery flames pouring from the summit of a volcano, and when the drawing was done she turned to the class before her and said: "Can any of you tell me what that looks like?"

One boy immediately held up his hand, and the teacher asked:

"Well, Joey, you may tell us."

"It looks like hell," replied Joey with startling promptness.

Proper facilities for unloading cars into storage warehouses and bins and reloading into trucks for delivery to customers is an important item in the business. A great deal depends upon the general topography of the property used as to the best and least expensive form of improvement. For such heavy materials as bulk lime, broken stone, sand, gravel, etc., a fair profit can be obtained from labor saved in handling. If the conditions are favorable elevated tracks may be constructed at sufficient height to permit of dropping of cars into the bin, also dumping from bins into drays. This is no doubt the least expensive to operate. Where it is not possible, however, on account of the general features of the property and its relation to the railroad tracks to use this method, pockets may be constructed of



ECHOES FROM THE OHIO SUMMER OUTING.

Ladies, left to right—Mrs. Wm. A. Fay, Mr. Wm. A. Fay, Mrs. R. E. DeVille, Mrs. Geo. A. Gengnagel, Mrs. Bert J. Graham, Mrs. Elmer E. Stillwell.  
Gentlemen, left to right—Frank Hunter, Stanley Rhodes, Charles O'Donnell, Geo. A. Gengnagel, E. H. Deftaugh, J. P. Carlisle, C. S. Bigsby, Wm. B. Knight.



concrete under a level track where cars may be dumped and elevated with power in bucket conveyors to bins constructed overhead, sufficiently high to permit of delivery wagons driving under so that the material may be dumped into them. By this method the contents of an ordinary fifty-ton car may be raised into the bins in less than an hour and wagons can be loaded from the bin in two minutes.

Electricity is usually the most convenient as well as the least expensive power to use for hoisting materials.

The above are simply a few little hints that have come into my experience; I have always been a very careful reader of papers that take an interest in and treat on the builders' supply business, and have noted with profit the photographs reproduced therein.

I shall feel amply repaid if this little article contains anything that might develop into a suggestion that would result in some fellow builders supply dealer being able to improve his method of handling goods in his line, or in the manner of keeping his records, and I would like to further suggest that this line of thought be carried further by someone else in the business.

None are so wise but that he can add tremendously to his sum total of knowledge by the exchange of ideas. This is one of the principal ways of profiting by meetings and conventions such as are held by the National Builders' Supply Association. The little fish may gasp and splutter the first time he opens his mouth and be awfully surprised at the amount of water that rushes in and say to the big fish: "Mother, I have swallowed the ocean." "Now what shall we do for a place to swim?" But don't you ever think that either the big or small fish will consume all the ocean of knowledge in one swallow nor in a lifetime. The greater the mind the more likely the admission of an incomplete education and of a desire to acquire knowledge from the experience of others.

At various and sundry times since the Lord started this old universe going, men have arisen and claimed that they have acquired all the knowledge pertaining to a particular subject, but at some time in such men's career it is discovered that they are deceiving themselves. Such an incident occurred in the life of Vanderbilt, the great railroad magnate, to whom young Westinghouse went with his new invention, the air brake.

"Young man, do you mean to tell me that you could stop a train of cars with wind?"

"Yes, sir, with wind or air, sir; by means of my air brake."

"Young man," said the all-wise Vanderbilt, "I have no time to waste on damn fools."

No man will ever complete his education, so then let us continue to exchange ideas. I have offered a few, and there may be possibly nothing new to any one reading this, but let us have yours; I may gain something, some other fellow may be helped.

Shakespeare said in "As you Like It," "And so from hour to hour we ripe and ripe, and then from from hour to hour we rot and rot." Why not keep the ripening up as long as possible and delay the rotting?

The manufacturers of the various lines we handle are swapping experiences to their mutual advantage, why not we in the builders' supply business?

One manufacturer probably has picked up some new point about burning lime, he passes it on at the first lime convention or through our trade paper. A cement manufacturer will do the same. A sewer pipe manufacturer may discover some new form of flattery that he believes applies to his neighbor, but that is another story.

You may discover by exchanging experiences with the builders supply men of the United States that you could save in the cost of an extra man in the warehouse by having a slight grade in your warehouse floor so that a heavily loaded truck will practically run by gravity from the car at one side to the dry on the other, or to a place for piling the contents in the building.

You may learn something about the best waterproofing materials for concrete and how to apply same, or something in reference to mortar colors, brick and cement coating, or a thousand and one little things that seem insignificant in themselves, but taken together decide whether the ripening process is still going on or whether the rotting has begun.

Hollis A. Smith, State Street, Hackensack, N. J., has been incorporated to deal in lumber, brick, stone and building materials and supplies. Capital stock, \$125,000. Incorporators: Alfred T. Holley, Walter H. Smith and Archibald C. Hart.

The National Limestone Company, of Martinsburg, W. Va., has been incorporated with a capital stock of \$1,500,000. Incorporators, Charles A. Young, Edgar C. Trout, John T. Nadenbousch, G. P. Grimsley and A. C. Nadenbousch, all of Martinsburg.

### Fire in Plaster Plant.

The new building, recently erected by the Monarch Plaster Company at Wheatland, N. Y., was totally destroyed by fire August 23, entailing a loss of about \$10,000. Insurance only partly covered the value of the building and the new machinery, which has a capacity of twenty-five tons of crushed gypsum rock per hour.

The plant is owned and operated by Rochester men, H. J. Hunt being president, and H. C. Nobels, of Rochester, secretary and treasurer, and has been in operation nearly five years. The product is crushed gypsum rock, which is quarried in the mines at Wheatland, and shipped in an unfinished state to be used in the manufacture of wall and land plaster. The new and expensive machinery which was installed in the new building will be a total loss, although plans have already been made for rebuilding on a larger scale.

### Gypsum Company Gets Permit.

SUPERIOR, WIS., Sept. 1.—A building permit was granted recently to the United States Gypsum Company for the construction of its building on Tower Bay slip. The cost was given as \$3,000.

The Jumbo Plaster Mill at Sigurd, Utah, shipped over fifty tons of plaster during the past month.

Al. Gallagher, of the Ohio-Binns Retarder Company, was in Chicago the other day, and reports quite an improvement in business.

J. W. Auld, manager of the Buckhorn Plaster Company, Denver, was in Chicago the other day on business. He says the West has been very prosperous, Denver making great progress during the hard times of the past two years and crop conditions and everything taken into consideration, prospects are very favorable.

F. A. Holliday, of the Overland Cement Plaster Company, Laramie, Wyo., says the West is very busy this fall and the plaster business is everything it should be except in price.

Albert W. Ristine, vice president of the Southern Gypsum Company, was met on the train the other day by one of our men. He reported the plaster business improving in volume and price conditions better, but he felt there was greater need for improvement along these lines.

M. A. Reeb, of the Niagara Gypsum Company, Buffalo, N. Y., reports quite an improvement in the plaster business in the East.

William A. Mallet Company, Bronx, N. Y., has put in a full line of masons' building material and has the yards and docks stocked ready to do business. They are prepared to deliver goods on a minute's notice and carefully attend to prompt service.

J. R. Quigley Company, Gloucester City, N. J., has been incorporated to deal in stone, brick, lime and timber. Capital stock, \$100,000. Incorporators: John R. Quigley, Esther A. Delehanty, 811 Market Street, Gloucester City.

W. W. Fisher, of the Fisher Lime and Cement Company, Memphis, Tenn., when not busy selling building material is busy with his new Mitchell car. A ROCK PRODUCTS man was taken for a spin over the Memphis boulevards recently and saw some of the street work, as well as buildings, for which the Fisher Company are furnishing materials.

Fire in the plaster mill of the Dayton Builders' Supply Company, Dayton, O., did damage to the extent of \$3,000 to material and machinery recently. It was covered by insurance.

The Mahnken Building Material Company, Brooklyn, N. Y., has been incorporated with a capital stock of \$300,000, to manufacture and deal in building materials, marble, granite, concrete, brick, etc. Incorporators, John H. Mahnken, Freeport, N. Y.; Daniel W. Moore, 1376 Union Street; John E. Sparrow, 306 Carlton Avenue, both of Brooklyn.

The Hovey Brothers Lime Company, Salt Lake City, Utah, has been incorporated to carry on a general lime business, with a capital stock of \$12,000. Harry Brain is president and treasurer; O. Dana Hovey, vice-president, and A. A. Hovey, secretary.

The Davis Commercial Club, of Davis, Okla., is promoting the establishment of a rock crushing plant to cost \$150,000.

The Southern Ballast Company, Muskogee, Okla., has been incorporated with a capital stock of \$100,000, by C. S. Cobb, Muskogee; J. R. Culliname, St. Louis, Mo., and R. S. Legate, Denison, Tex.

## INDIANA.

**Building Supply Retailers Have Had a Prosperous Season and Are Hopeful Over the Outlook.**

### TERRE HAUTE.

**The Terre Haute Coal and Lime Company.**

The Terre Haute Coal and Lime Company is one of the oldest as well as one of the largest concerns in the southern part of the state of Indiana dealing in coal and building material. Its main office and warehouse are at 923 Wabash Avenue, known to and called by the residents of the city as often Main Street as Wabash Avenue.

The company has large yards located on Fourth, Fifth and Seventh Streets, and all on the Big Four Railway, with switch tracks running into each, and close by each of the large warehouses, which have a collective storage capacity of fifteen thousand barrels of cement, lime and plaster. The yards are admirably arranged for handling these supplies economically and quickly, which has given this company the reputation of making the promptest deliveries possible, due to the arrangement and the personal supervision of W. O. Martin, superintendent of the three yards. He has the reputation of running the immense business of these three yards like clockwork. He is big, fat and jolly, popular with his men and with the clients of the company, quick and active, never in a hurry, and gets through with more work than most men in the same responsible position.

J. W. Landrum, manager of this large concern, has conducted its business for many years successfully, and by energy and ability has built it up to its present really great proportions. His duties are multifarious in character; he directs shipments, distribution, makes all contracts, directs the work of washing sand and gravel and various other duties which take him to all parts of the city, which he daily looks after. His horse and buggy are familiar to all Terre Hauteans, and he always has a pleasant smile and hearty greeting to all, as he drives along the streets, and as all Terre Haute knows him, he is kept smiling from early till late. He is popular in the entire country, as was shown by his election to the presidency of the National Coal Dealers' Association of America.

They handle Atlas, Lehigh, Red Ring and Universal Portland cement, besides the products of the United States Gypsum and Grand Rapids Plaster Companies, and bulk and hydrated lime from the Delphi Lime Company, from Huntington and from Bedford. It is no unusual occurrence for the company, in the busy season, to sell a carload of lime in two days. It carries a large line of sewer pipe and fittings of the American Sewer Pipe Company, and the products of Brazil, Ind. The company sells large quantities of fine sand, gravel, lath and coal.

The three yards require a dozen teams and fifteen horses to haul their material to jobs in all parts of the city. The Terre Haute Coal and Lime Company does business in a radius of fifty miles of the city. Mr. Landrum stated that business had been fair this year, and that he considered with present bright prospects in view a better showing would be made than last year.

### The Kennedy, McGinnis Company.

The Kennedy, McGinnis Company, with office and yard at Twelfth and Locust Streets, are one of the firms of dealers selling building material in Terre Haute, Ind. Their trade is principally confined to the city. Their facilities for handling economically and delivering promptly these supplies to jobs in all parts of the city are excellent. Four double teams and eight horses are necessary to do the hauling of this yard. A switch track from the Chicago and Eastern Illinois Railway runs along the entire length of the yard close to their coal bins and warehouses.

Their warehouses have a capacity of seven hundred and fifty barrels of cement, lime and plaster. The lime house, built on the principle of a refrigerator, holds one carload of bulk lime, received from Huntington, Ind., and from the same place hydrate, which they report is being preferred by many to lime in barrels or bulk. The principal brands of cement they carry are Atlas and Wabash Portland cements and plaster from the Plymouth Plaster Company, of Ft. Dodge, Iowa. They also carry a large line of sewer pipe and fittings from Brazil, Ind. They report business fair this year.

### The Acme Coal and Lime Company.

The Acme Coal and Lime Company, whose office and yards are located at 1001 to 1009 Poplar Street, have been in business in Terre Haute, Ind., four years. It is one of the live firms handling building (Continued on Page 46.)



## National Lime Manufacturers' Association

Meets Semi-Annually.

### OFFICERS.

William E. Carson, Riverton, Va. .... President  
Charles Weiler, Milwaukee, Wis. .... 1st Vice-Pres.  
Walter S. Sheldon, Hamburg, N. J. .... 2nd Vice-Pres.  
M. H. Deely, Pittsfield, Mass. .... 3rd Vice-Pres.  
C. W. S. Cobb, St. Louis, Mo. .... Treasurer

### EXECUTIVE COMMITTEE.

William E. Carson, ex-officio; Chas. Warner, Wilmington, Del.; T. E. Fleischer, Sheboygan, Wis.

### A Modern Lime Plant in Cuba.

With the building and starting in operation of the lime plant of O. G. Aguilar y Ca., of Havana, Cuba, the lime industry of Cuba leapt at one bound over the usual steps of gradual development which has characterized this industry elsewhere. Prior to the building of this plant lime was universally burned in Cuba in the old-fashioned intermittent pot kilns, which were of the crudest design, in many cases being merely vertical shafts hollowed out in the side of the quarry itself with a horizontal tunnel driven in at the level of the floor of the quarry to draw the lime and admit air. The limestone and fuel were charged together, the kiln loaded, burned and drawn and then recharged.

While hydrated lime was generally sold on the market this was made in the crudest fashion by piling the lime in layers and sprinkling with water, and the contrast between these crude methods and the works of O. G. Aguilar y Ca. is most marked. The later plant might serve as a model for an installation in this or any other country. The plant while of small capacity at present is equipped to produce lump lime, hydrated lime and caustic lime, the machinery being installed for a capacity of about fifteen tons of hydrate and fifteen tons of ground caustic lime per day, although the kiln capacity is only from fifteen to twenty tons, but provision is made in the design for the addition of other kilns as soon as the market for the product is established.

The lime is brought from the quarry, elevated in cars from which it dumps directly to the kiln. The lime as drawn from the kiln can either be shipped as lump lime or passed through a crusher, from which it is elevated to the hydrating and grinding building, where the crushed lime is stored in a large bin, from which it may be drawn either to the hydrating machinery or to the grinding machinery when ground caustic lime is to be produced, the demand for the latter being limited to the sugar cane harvesting season. From the hydrator the lime is elevated to storage bins, where it is seasoned before shipment, thus making sure of complete hydration. From these bins the lime is drawn to packing machinery, being first passed over screens to remove any lumps, particles of core, etc.

A 100 horsepower engine and boiler installation furnishes the power for the operation of the machinery and for the suction draft of the kiln, and provides a surplus for future increase in size of plant. The kiln is built under the Spackman-Lazell patent and differs from the ordinary fixed kilns in the division and preheating of the air, which is secured by a special arrangement for feeding air to the fire boxes and to the chamber of the kiln itself, the air to support combustion being drawn up around the cooler through ducts in the masonry, where it becomes highly heated, only sufficient air being allowed to enter under the grates of the fire boxes to partially consume the fuel, the balance of the air passing up through ducts in the lining around the fire boxes and the kiln proper, and is introduced about four feet above the throat of the fire box, where it is delivered in a highly heated condition and mixed with the partially consumed gases from the fire box, thus greatly elongating the flame and increasing the hot zone, which, in turn, increases the economy of operation.

Careful tests were made of the kiln to determine the range of production and the point of maximum economy in fuel consumption. Starting with the burn-

ing of 100 pounds of soft coal per hour and operating the kiln under these conditions until normal condition was attained, the coal fed and the lime produced was measured for a period of forty-eight hours and the results showed the production of 15,000 pounds of lime per day, with a fuel consumption of 2,400 pounds, or 6¼ pounds of lime produced to one pound of coal burned. As the kiln was obviously operating much below its capacity the feed of coal was increased to 142 pounds per hour, or 3,408 pounds per day of twenty-four hours. The kiln was operated under these conditions for several days and a second test of capacity made, extending over a period of forty-eight hours. This showed a production of 23,500 pounds of lime per day, with a coal consumption of 3,408 pounds, or 6.9 pounds of lime to one pound of coal used. The coal firing was then increased to 200 pounds per hour and the kiln as previously operated for a sufficient length of time to secure standard conditions, and a third test of forty-eight hours was made. This test showed a production of 33,500 pounds of lime per day of twenty-four hours, with a consumption of 4,800 pounds of coal, or 7.1 pounds of burned lime to one pound of coal used. The amount of fuel was then increased to 230 pounds of soft coal per hour and as previously the kiln operated until standard conditions were reached, when a fourth test was made, which showed the production of 40,000 pounds of lime per day of twenty-four hours, with a consumption of 5,520 pounds of coal, or 7.2 pounds of burned lime produced to one pound of fuel used.

The kiln was operated on high calcium stone, the calcined lime analyzing from 96 to 98 per cent CaO. The raw stone in physical texture resembles a chalk, although somewhat harder and contains considerable moisture. There was no spawling or fire slaking of the stone. By reason of the peculiar construction of



O. G. AGUILAR Y CA., LIME PLANT, HAVANA, CUBA.

the kiln at the fire boxes the falling of the burned lime over the bridge wall onto the grates was entirely eliminated, which aids materially in keeping the grates clean and in securing uniformity of firing.

The plans of the plant were prepared by the Henry S. Spackman Engineering Company, of Philadelphia, Pa., and it was erected and started in operation by M. T. Patterson, to whom we are indebted for the information contained in this article.

### Up-to-Date Plant.

BELLEVILLE, ONT., Aug. 26.—Lucius E. Allen, secretary-treasurer of the Ontario Limestone and Clay Company, Limited, with lime works at Shannonville, Ont., writes:

"We now have our lime burning plant constructed, and it has been in operation for about thirty days. It is, I believe, the most up-to-date little lime works in Canada, our buildings being of steel and concrete with Keystone kilns. We propose to construct a hydrated lime plant in connection with the plant this fall."

### Thirty Tons Daily Capacity.

ROUND ROCK, TEX., Sept. 17.—Robert S. Edwards, consulting and chemical engineer, 12 Pearl Street, Boston, Mass., has designed and is constructing a large hydrating plant and gas producer plant for the Round Rock White Lime Company, Round Rock, Tex. The hydrating plant will be of thirty tons' daily capacity, of latest design, built to hydrate a high calcium lime of superior quality. In the gas producer two kilns will be erected and operated by one gas producer, using a lignite of high quality. The mechanical details and arrangements are in charge of E. O. Quinn, who is now at Round Rock.

The American Hydrating Company's cylindrical hydrator will be used.

### The Manufacture of Lime.

By WILLIAM SEWEL.\*

Pure carbonate of lime or calcite consists of 56 parts by weight of calcium oxide and 44 of carbon dioxide. Few limestones contain more than 97 per cent of carbonate of lime, the remainder consisting of carbonate of magnesia, silica, alumina and iron. The limes obtained from this class of stone are known as high-calcium limes. In the magnesian limestones the carbonate of magnesia varies from 5 per cent up to as much as 46 per cent, the carbonate of lime being correspondingly reduced. A true dolomite contains the two carbonates in equal molecular proportions, and if absolutely pure gives an analysis of 54.35 per cent carbonate of lime and 45.65 per cent of magnesia. Limes produced from limestone containing more than 5 per cent of carbonate of magnesia are classed as magnesian limes.

The fuels used in lime burning are wood, coal, coke, coke breeze, producer gas, natural gas and crude petroleum. Wood is the best fuel, but the growing scarcity of timber is making it costly and difficult to obtain, and it is rapidly being displaced by coal. The fuel which comes nearest to wood in its chemical conditions is natural gas. Crude oil, vaporized by steam, also comes very near to the conditions of wood, but except in a few localities their cost is quite prohibitive. Producer gas would appear to have many advantages in its application to the burning of lime; the chief of these is the control it gives the operator over the temperature of the kiln, and the fact that no ash or residue from the combustion of the fuel is left among the lime.

Coal for lime burning holds the field, and much the largest proportion of the world's output of lime is produced in kilns fired directly with coal, either in the kiln itself or in furnaces attached to it.

One of the waste products of lime burning is the carbonic acid, which is entirely lost; if means could be found to utilize this at a profit in any process of chemical manufacture, a great saving to the industry would result.

\* Abstracted from Iron and Coal Tr. Rev.; a paper read before Cleveland Institution of Engineers.

### The Ozark White Lime Company.

FAYETTEVILLE, ARK., Sept. 10.—The main offices of the Ozark White Lime Company, of which F. O. Gulley is the general manager, are located at this place. The company has three plants, two near Johnsons, Ark., about five miles from here, and the other at Cravette, Ark. The plants at Johnsons are known as the Crescent plant and the Clear Creek plant. Andrew Cordwell is the superintendent of both plants.

The Crescent plant has sixty-six acres of land and the quarry has been opened on the side of the hill. The stripping here is about thirty-two feet, with twenty-one feet of available stone of high quality. There are three kilns here, seventeen feet in diameter by twenty-five feet high; each has a capacity of 130 barrels a day. Wood is used for fuel and red oak used mostly. The company has about 600 cords on hand at all times. The quarry ledge is even with the top of the kilns, so that the stone is hauled by cars and dumped into the top of the kilns with little expense. This plant is on the Frisco road.

The Clear Creek plant is about one-half mile from the Crescent plant. The company has forty-four acres of stone land. The quarry has been opened on the side of the hill and they have commenced tunneling into the face to secure the best stone. The bed of lime rock here is about thirty-two feet thick. Ingersoll drills are used and the stone is hauled up a tramway to the top of the kilns. There are three kilns, 17'x25'. The drawing floor is of concrete and the lime is spread out on this to cool.

The cooperage shop for these plants is near the station and three hundred barrels are made each day. For these mostly cottonwood, elm and ash are used. The Cravette plant, which burns a high calcium lime, has two kilns.

Speaking of conditions Mr. Gulley said to the Rock Products man that business had been very good the past thirty days, and he thought that the fall trade would be excellent. There is every indication of plenty of construction work in this vicinity.

### Warren Lime Company Formed.

WARREN, ME., Aug. 25.—A new lime corporation, known as the Warren Lime Company, was recently organized in this city for the purpose of acquiring and operating the lime property at West Warren, formerly known as the McLoon & Stover Lime Company. The offices of the company have been removed to Rockland, and Francis C. Norton has been made general manager and treasurer. Hon. Wm. T. Cobb is president of the new concern and A. S. Littlefield is secretary.



## MODERN PLANT

Of the Dittlinger Lime Company, Which Combines the Newest Features of High Grade Lime Production

The state of Texas is nothing if it is not large. Few people conceive the greatness, but you take a pair of dividers and set them on the southern and northern boundaries on a map and swing them around and you will land in Canada. Do the same thing east and west and you will land in the Pacific and the Atlantic Ocean.

You can travel on a fast express train more than twenty-four hours in a bee line and never get out of the state.

A state like this ought to use lots of lime. This was the conclusion drawn by the men who formed the Dittlinger Lime Company, at New Braunfels, Comal County, in 1906.

It looks reasonable, as the government report showed that in one year the consumption of lime increased from 300,000 barrels to somewhat over 400,000 barrels in the state, and Texas being one of the least developed states in the Union, though the largest, should have continued to increase the consumption at this rate. But it did not. To the contrary, since the panic of 1907 set in the amount of lime used fell off 100,000 barrels in a year instead of increasing.

However, the previous government report was the cause of three new lime plants being installed in that part of Texas, where limestone of the finest quality is found, but only one of the plants located at Dittlinger Station on the I. and G. N. R. R. has succeeded in keeping up operations in competition with the older establishments in the state.

The lime stone region, in the state of Texas, great as it is, is also great, but it is limited, nevertheless. It extends from Sherman in the northeastern portion of the state to San Antonio south and to El Paso west, and from there back to Sherman, but while this large territory contains inexhaustible deposits of limestone formation, not a very large portion of it is suitable for the manufacture of lime. The reason for this is that very large portions of the deposits are of softer chalky variety, which will not burn well, though the chemical analysis is approximately the same as the harder, crystallized varieties.

Wherever the crystallized formation of limestone is found it shows an analysis of a very high percentage of carbonate of calcium, the stone at the quarries of the Dittlinger Lime Company averaging from 98.5 to 99.3 per cent of carbonate of calcium.

When this company started to go into the manufacturing business they investigated the most modern methods used in the lime burning industry, being desirous of having an ideal plant.

Unfortunately their research brought them in communication with a company, who at that time were making great claims of having a patented process of burning lime with producer gas, which was to be made by using part of the stack gases as a diluent in the gas producer and in the lime kiln proper. The theoretical principle looked very plausible, but in practice the establishment was a total failure, causing a great financial loss to the enterprise.

However, this did not prevent the company from going ahead, and after discarding the stack gases and replacing them with steam blowers they succeeded in solving the problem of burning lime with producer gas. Their yield may not be as good as in other plants correctly installed from the start, though they are getting 3.68 pounds of lime to a barrel of coal, which is a low grade bituminous egg coal mined at Eagle Pass, Tex., which has a fuel value of 11 to 12,000 B. T. U's.

In manufacturing the lime into the hydrated form the company was fortunate in selecting the party to install this portion of the plant, and succeeded in establishing the most modern hydrating plant in the Southwest, and while they encountered many mechanical difficulties, which had to be overcome in this department, they were all remedied one after another until they now have the best arranged hydrating plant anywhere.

The contract for the hydrating plant was let to the Kritzer Company, of Chicago.

This hydrating plant makes a product now that will pass 98 to 99 per cent through a 200-mesh sieve. Just think of it, 40,000 little holes to one square inch. Only a few years ago manufacturers of hydrated lime were satisfied with a product finished on a forty to fifty-mesh sieve, or 1,600 to 2,500 holes to the square inch, and many manufacturers are content to do so today.

While the fineness of hydrated lime is not the only property required in a first-class article it goes a long way in determining a properly finished product.

Softness of the lime is another necessary quality, which can only be obtained by careful attention during the hydrating process, for which Mr. Kritzer has succeeded in furnishing the ideal mechanical hydrating machine, the reduction of the temperature during the process being obtained by two distinct features.

One is the correct application of the proper amount of water to the lime, which must be reduced to small particles first, so that the water can undergo the chemical reaction which takes place in combining with the calcium oxide without leaving any large chunks inside which are not reached by the water and which would be overburnt, and would result in making a sharp, gritty material instead of an amorphous impalpable powder.

The other feature is the condensing stack, which produces a kind of a vacuum in the hydrating cylinders, and as a vacuum is a non-conductor of heat it will not radiate the heat given off by the slaking lime to other unslaked particles, but carries it up the stack in the form of a vapor, which is in turn condensed by the cold water falling in a spray from the top of the stack. This also carries back particles of fine hydrated lime, which are carried in suspension, and thus forming a lime milk for the hydrating process instead of the pure water being used. The Kritzer hydrator is well adapted to be closely observed to ascertain the conditions that are existing inside, enabling the operator at all times to see what he is doing. Slides placed at regular distances along the cylinders permit the examination of the product as it passes through the machine, and the operator learns in practice to judge the quality of the material by the touch, the same as a miller ascertains by the feeling in his finger tips whether the machines are all working properly. When opening any of the slides the man attending the hydrator can tell immediately whether he has the proper vacuum, as the minute he has no suction through the open slide he may rest assured that he has either too much lime or not enough water, and is overheating his hydrate, which results in a crystalline short working product.

It is all right for the chemist to tell us that fifty-six parts of calcium oxide will take eighteen parts of water to make a correct hydrate, which contains only the water of constitution but no free moisture. In practice it does not work out that way, as the amount of water, which is evaporated during the hydrating procedure, and which must be in excess of the eighteen parts of water of constitution is an unknown quantity, which varies constantly according to the freshness and temperature of the caustic lime as it comes to the machine.

From the experience gathered by these observations it seems impossible to get a perfect hydrate by the old method of weighing the lime and weighing the water, as it cannot possibly give the same results twice.

Gas-burned lime is without question the most evenly burned lime that can be produced if it is drawn at intervals of not exceeding two hours, the results in this plant showing that the core and overburned lime will not be over one-half of 1 per cent.

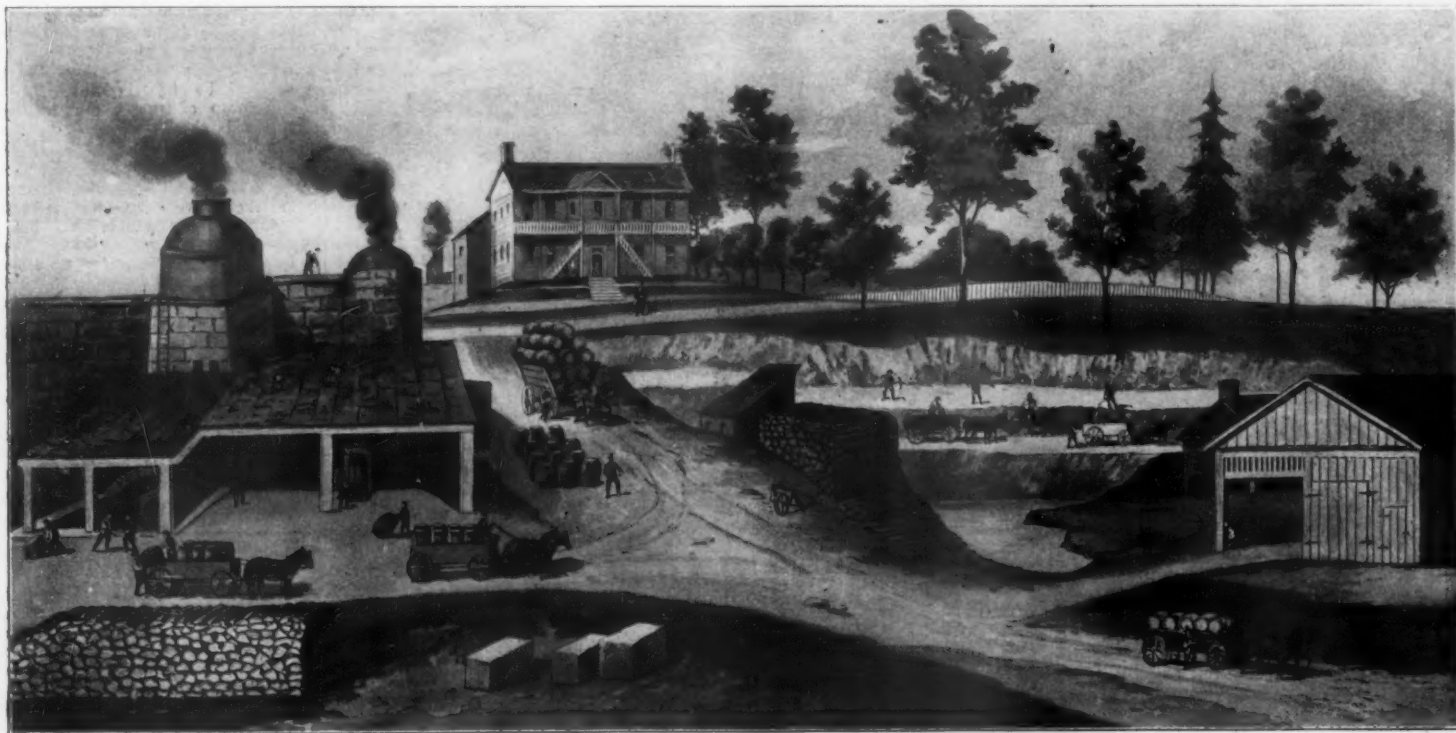
Kiln construction is a much disputed field, and every lime burner has some pet kiln which is just a little better than any other. Some kilns are only 4' square, while others are as large as 8'x8', and in both extremes they get good and bad results. If a man has a certain size kiln, and experience has taught him how to fire it and how to get the best results, he will make a good lime and make it reasonably economical, where another man who has not had the experience with that particular kiln will waste the fuel and not get the results.

In gas fired kilns the firing conditions are under much better control, and if the kilns are equipped with a good pyrometer and reliable couples the regular readings of the temperatures in the kilns will enable the operator, if he has good common sense, to get the best possible results.

Of course it requires constant watching, but there is no excuse in a well-designed kiln for the fireman to fall down for any great length of time.

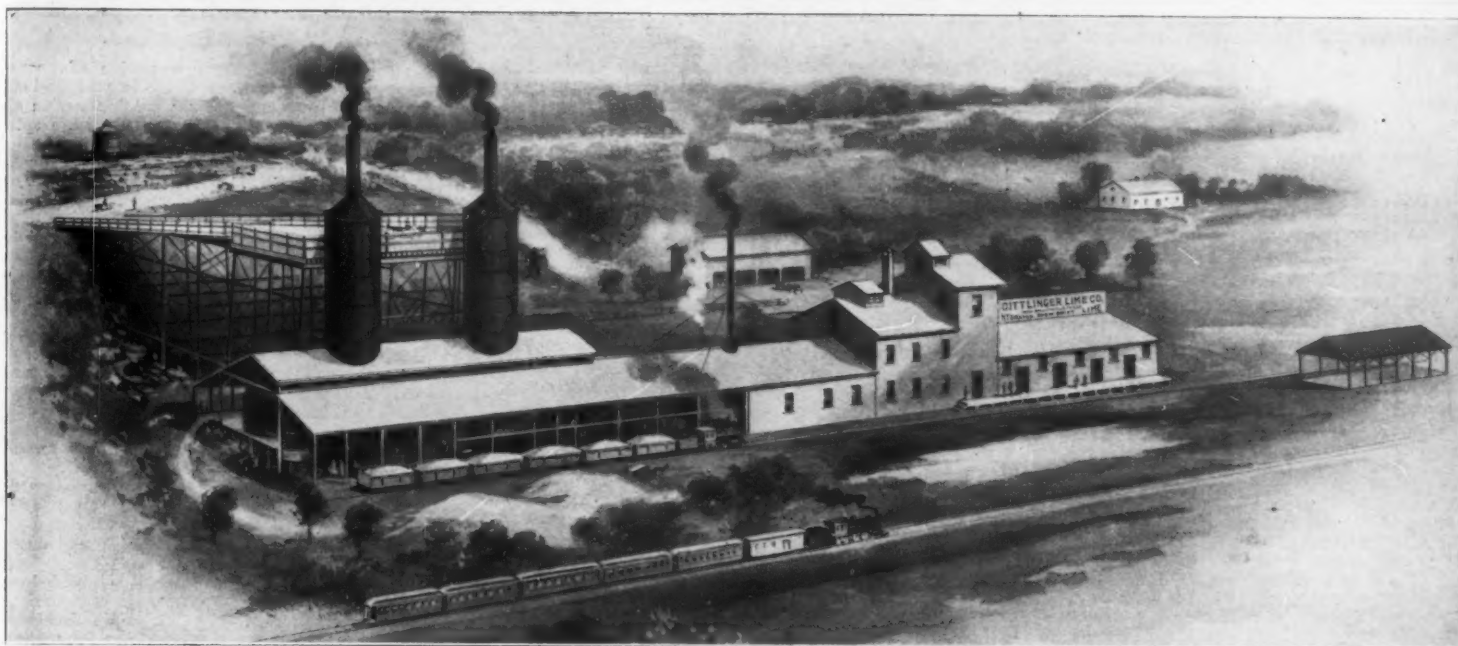
In gas fired kilns the firing conditions are under much better control, and if the kilns are equipped with a good pyrometer and reliable couples the regular readings of the temperatures in the kilns will enable the operator, if he has good common sense, to get the best possible results.

Of course it requires constant watching, but there is no excuse in a well-designed kiln for the fireman to fall down for any great length of time.



REPRODUCTION OF AN OLD LITHOGRAPH SHOWING DITTLINGER & BROTHERS' LIME PLANT IN 1859.





MAGNIFICENTLY EQUIPPED PLANT OF THE DITTLINGER LIME COMPANY, AT DITTLINGER STATION, NEAR NEW BRAUNFELS, TEXAS.

Firing the gas kilns is not as hard physical labor as either firing coal direct or wood-burning kilns, but they require closer attention, and it pays to have a man who understands the conditions, even at higher wages, who will watch the kilns closely, as in gas-fired kilns the yield can easily vary twenty to thirty barrels per kiln per day, and usually a greater amount of coal is used for the smaller yield if the kilns are not properly attended to.

The advantages of using the gas fire instead of the direct coal fire are not as yet understood to a great extent, but when any of the lime burners having used the direct fire will investigate a modern gas-fired lime plant we doubt that they shall fail to see the advantages, one of which and not the least one is the longer life of the kiln lining. The heat for burning lime need not be excessive, in fact when the heat is too great it will not produce as desirable a quality nor the largest quantity for the amount of fuel used. In the direct coal fires the heat sometimes gets very high, and then it is smothered down when the fires are recharged, while in the gas-fired kilns it is one of the principle features to keep an even temperature, and this is much easier accomplished with the gas fire than in direct firing.

The Dittlinger Lime Company have two gas producers to each kiln, and one small shovelful of coal is fed in about every eight minutes in each producer.

The operator can readily see, when it becomes necessary to fire more from the color and the volume of the blaze in the arches, which in this plant are always open to observation. The front of the combustion chamber is always open to permit the free access of atmospheric air, which is absorbed in the proper proportion to the amount of gas used by the natural draft of the kilns. These are forty feet high from the firing floor, with an extension of fifteen feet above the stone charging doors and a further stack of fifteen feet, which is thirty-six inches in diameter.

The kilns being charged with the rock from one side sometimes cause a stronger draft opposite the charging side, as the larger stone has a tendency to roll over to that side, and this is corrected by loading one cartload of quarry spawls on the side having the stronger draft to every ten cartloads of the regular size rock. This equalizes the draft, and the kilns will ordinarily stick every two hours and have to be poked down, and this enables the man in charge to get the hottest side down first. It is quite a saving in being able to use the amount of quarry spawls, which make just as good lime as the larger stone, and when the lime is hydrated within twenty-four hours after being made the product is just as good, and the larger lumps of lime can be used in filling barrels of coopered lime, which is an advantage, as this will to some degree obviate the air slaking of the lime in the package.

The plant has been running steadily for the last six months, and the quarry is being opened up very nicely. The quantity of the stone is practically unlimited, being known to be two hundred feet deep, with a probability of hundreds of feet more.

The rock has a very good carrying strength, in fact extraordinarily so, but being of a decided crystalline formation it crushes readily in a gyratory crusher,

producing a minimum amount of sand or screenings, which quality has induced the officers of the company to order a No. 5 Symons crusher, with a rotary screen for all sizes of crushed rock for which there may be any demand, and they propose to bid for the business of furnishing the crushed stone for some of the modern fireproof steel buildings which will be erected within the next few years in the larger cities of Texas.

Again referring to the gas producer plant of the company, it has been decided that it is a mistake to use so many gas producers, although in Germany the number used per kiln is sometimes more than in this plant, but the wide range of results obtained from running a producer at varying temperatures, as either too cold or too hot a producer will not give good results. A producer that is too cold will not change the carbon dioxide into carbon monoxide, and too hot a producer will break up the carbonhydrates, both resulting in a poor gas and making it smoky instead of a clean orange or blue gas. It is the opinion of the managers that it is easier to take care of one larger producer and run the same at the proper temperature than a number of small ones. While the soot, which is made in breaking up the carbonhydrates, will burn readily and give good heat in the combustion chamber as long as a lime heat is maintained in the incandescence zone, these particles of free carbon are very troublesome in filling up the gas passages very rapidly. There is nothing that interferes more with a successful gas burning plant than the hindrance of the free and unobstructed passage of the gas from the producer to the combustion chamber, but nevertheless, while the approaches for the gas should be large and ample, the opening for the gas into the combustion chambers must be adjustable, so that a pressure of the gas can be maintained, observation having indicated that gas coming to the combustion chamber without pressure will burn off too lazily and at too low a temperature to effect the desirable results. It has been found necessary in this plant to clean out the gas passages quite frequently, the best results being obtained when the gas flues are cleaned at least every eight hours with compressed air. This is easily accomplished after a draw, a fifty-foot hose with a nozzle twelve feet long made of one-half-inch pipe reduced to one-quarter-inch at the outlet being used. With this arrangement all corners are easily reached, and the temperature in the kiln is not reduced by the compressed air, as the soot burns off partially with the air in blowing out. As a matter of course all poke holes in the producer, as well as the charging hopper and the flues into the kilns, should be full open during the cleaning process to obviate any possible chance of a gas explosion.

The entire plant of the company is doing fine work now, but it has been a succession of problems to be solved and difficulties to overcome, and it is due to the resourcefulness of the company's vice-president, I. A. Ogden, a mechanical engineer of wide experience in the milling business, that all the obstacles in the successful manufacture of Snow Drift hydrated lime have been finally surmounted. If it had not been for his efforts this plant might spell failure instead of success today.

H. Dittlinger and N. V. Dittlinger, from whom the company takes the name, come from an old lime family, their fathers having been in the lime business, manufacturing the celebrated Richards Cape Lime at Cape Girardeau, Mo., before the Civil war.

We show herewith a reproduction of an old lithograph of the plant of Dittlinger & Brother as the same stood in the year of 1859, the year when H. Dittlinger, the president of the present company, was born at Cape Girardeau.

It is remarkable to see the kilns constructed by Dittlinger Brothers over fifty years ago, having a brick stack, possibly the only kilns constructed in this country on that principle so far back.

We also show a reproduction of the present plant of the Dittlinger Lime Company at Dittlinger Station, four miles from New Braunfels, Tex., where the Dittlingers of the present generation live.

This reproduction shows the general arrangement of the entire plant, and you will notice the idea of the designer in keeping the product moving in one direction from the time that the stone is quarried until it is loaded into the cars in the form of Snow Drift, which is making an enviable reputation all over the southwestern states, being regularly used now in Texas, Louisiana, Arizona, New Mexico, Oklahoma and Arkansas.

The company is now contemplating the erection of three more kilns, which are to be run from one producer. Not that the business is so flourishing, but the trade is taking the entire output at present, and the lining of the kilns not having been replaced since the first of January, 1908, it is reasonable to expect necessary repairs before a very great length of time, when it will be a hardship on the company if they should not have other kilns to run.

Business in Texas is far from what it ought to be, and crop prospects are the poorest for years, still it is human nature to hope for better times ahead, and the old proverb says, "All things come to him that waits."

May they come to the enterprising firm, who do their waiting wide awake and full of push and vim.

Their undaunted faith in their own success is bound to win.

#### Makes Foreign Shipment.

YORK, PA., Sept. 16.—The Broomell, Schmidt & Steacy Company recently shipped to the Nolan Lime Works, at Johannesburg, South Africa, a lime kiln outfit and incline. The incline is used to convey the stone from the quarry to the top of the kiln. A shipment of a cement dryer was also made to the Franklin Industrial Company, Warren, O.

#### Obituary.

John George Gegner, aged 78, one of the oldest residents of the eastern suburbs and one of the pioneer lime manufacturers of Baltimore, Md., died August 31 at his residence, 518 South Clinton Street.

## QUARRIES

### An Economical Method of Breaking Down Stone.

The plant of the Elmhurst-Chicago Stone Company, at Elmhurst, Ill., presents an interesting installation for the quarrying of stone that is to be used as a crushed product for railroad ballast, street paving and general concrete work.

The stone at this quarry is an exceptionally hard, close-grained Niagara limestone that produces one of the best crushed stones of any quarry in that locality. The deposit lies near the surface, the overburden varying from a few inches to six feet, so that little stripping is required. The stratification consists of strata of about six inches at the surface, increasing to about six feet at sixty-five feet in depth, the present depth of the quarrying. The stone is broken down by deep blast holes extending from the surface to the bottom of the quarry, or about sixty-five feet deep.

The drill used is a standard rock type made by the American Well Works, of Aurora, Ill., and drilling is done by the churning, or spudding, method. The drill is portably mounted on a track and no guys or supports other than the truck frame are required for the derrick. Power is received from a housed motor placed on the truck frame, which is operated by alternating current received from the Aurora, Elgin and Chicago Electric Railroad lines, which pass near the quarry. The drilling machine is of special construction, with steel cut gears, to give maximum strength with minimum weight, and is designed to make sixty or less strokes per minute and is driven by a variable speed type motor.

A 5½-inch hole is drilled, the drill-hole being located about fifteen feet back from the edge of the pit. Three or four holes are drilled in a line, the holes being spaced about twelve feet apart parallel with the edge of the pit and exploded at one blast. The average drilling speed is forty feet per nine-hour day and only one man is required to attend the machine.

The holes are first sprung by exploding a small charge of dynamite at the bottom, to produce a larger cavity at that point, the object being to give greatest powder area at that location. The usual explosive is a 40 per cent dynamite mixed with black powder. The dynamite is cut into small pieces and rammed down with a ten-foot wood tamper attached to a rope. About 1,200 pounds of powder are used at a blast, and this is usually separated in each hole by occasional layers of clay. The top of each hole for about ten feet in depth is filled with clay and tamped hard. The regular fulminate of mercury caps are used, several being placed at intervals in each hole and attached to cable and discharged by electric exploder in the usual manner.

A surface area of about twenty by forty feet, extending sixty-five feet deep, is broken down by each blast. Pieces of rock broken down in too large sizes to be handled are drilled by air tools and broken with dynamite. The rock is loaded into low cars by hand and hauled up an inclined track to the crusher.

The owners express themselves as being highly pleased with the economy of this method of breaking down rock. They assert that when it is considered that this rock is harder than any other in the immediate territory the cost of drilling by deep blast holes with this equipment is more economical than any other method of quarrying.

### Installing Large Crusher.

A complete stone crushing outfit is to be installed by the Woodruff and Pausch Stone Company, of Columbus, O., as soon as the buildings for same are ready. This outfit is built by the Power and Mining Machine Company, of Cudahy, Wis., and includes a large stone crusher, which has an opening of forty-two inches. The machinery was furnished through the Chicago office, of which L. J. Hewes is manager.

The immense crusher will be built down deep into the ground upon a bed of solid concrete. The old stone crushing machine which will also be operated necessitates the lifting of the stone to the top of the crusher and then elevating it again after it is crushed. By building the new machine in the ground only one elevation will be necessary. The elevator buckets, which will be operated continuously, will carry 900 pounds of stone each. The buckets will dump the rock into two of the largest screens ever built, each being seven feet across and 24 feet long.

It will require an 800-horsepower engine to operate

the crushing plant.

The new crushing plant will have a capacity of 1,100 tons per hour, guaranteed. This means 275 carloads per day. The old machine has a capacity of 200 tons per hour and it will be operated along with the new one.

The Woodruff and Pausch Stone Company is now operating ninety acres of their own quarry land and also about sixty acres of land belonging to the National Steel and Iron Company, known as the Carnegie land. The Pennsylvania Railroad runs right along side of the acreage and also the river. The engineering facilities are admirable.

### Entire Output of Bedford Quarry Goes to South Chicago.

BEDFORD, IND., Aug. 23.—Recently the officials of the Illinois Steel Company visited Bedford in company with officials of the Southern Indiana Railway and completed arrangements with the Benzee Quarry Company for the shipment of 3,000 tons of grout a month, with the understanding that the steel company would take all that the quarry company could ship.

The grout will be crushed and used for fluxing at the South Chicago plant of the Illinois Steel Company. This industry will afford employment to a large number of men in Bedford.

### Fire Destroys Limestone Plant.

SHARON, PA., Aug. 31.—The Sharon Coal and Limestone Company, a subsidiary of the United States Steel corporation, met with a serious loss by fire at its quarries near Leesburg, Mercer County. In some unaccountable manner the building in which the limestone is crushed caught fire and was burned to the ground. The machinery was wrecked, causing an indefinite suspension of operations. The loss amounts to \$25,000. The company carries its own insurance. Engineer Harry Pritchard was severely burned about the head and arms while he was fighting the fire.

### Examine Limestone Deposits.

PALESTINE, TEX., Aug. 26.—Judge W. H. Gill, of Houston, and Frank Guinn, accompanied by Mac-Moore and Mayor Bowers and mineral experts, visited Salt Works recently and tested limestone deposits, examinations of rock being made with a view to using it in the Rusk iron furnaces. It is possible the State Railroad will be extended to Salt Works should the deposits prove of sufficient value.

### Crushing Plant Will Be Installed.

LOS ANGELES, CAL., Sept. 2.—A bore of 127 feet was completed by E. E. Shaffer at the Pacoima quarry recently and his report to the highway commission was that the opening showed solid rock of superior quality throughout. Further boring for a distance of thirty feet will be necessary, it is estimated, before an opening is made in the opposite side of the quarry and this will be followed by an investigation in other portions of the mound. It is estimated that the quarry will furnish 500 tons of rock daily with one shift working.

Revised specifications for a crushing plant at the quarry are being prepared at the highway commission's offices.

### New Rock Crusher is Added.

LITTLE ROCK, ARK., Aug. 25.—The Big Rock Stone and Construction Company is installing additional machinery at its plant near the foot of Big Rock to enable it to handle its present contracts for crushed rock. The company has signed contracts with the Cotton Belt to furnish the stone for ballasting the road between Little Rock and Alheimer and with the Iron Mountain to furnish 250,000 cubic yards of stone for ballast.

In order to adequately handle these contracts the stone company has found it necessary to add to its plant. A 70-ton steam shovel is being installed with which the crushed rock will be loaded into the cars, thus doing away with a large force of men. Another crusher is being added, making a total of four crushers with a daily capacity of 2,500 yards, or sixty carloads.

### Rock Crushing Plant Busy.

TWO HARBORS, MINN., Sept. 18.—The city rock crushing plant is now getting out more crushed rock than ever before. About seventy yards of rock is being crushed daily and keeps a force of six or seven men busy.

The Elmo Rock Company, Elmo, Tex., has been incorporated with a capital stock of \$10,500 to establish a rock crushing plant. They will install machinery and erect an office building. T. B. Griffith, president; L. W. Wells, vice-president; J. D. Whitfield, secretary, all of Terrell, Tex.

### Description of the Roadway Models at the Alaska-Yukon Exposition.

The model earth road shows a section of poorly drained earth road; a section which is well drained and crowned with a road machine; another section on which the ruts and holes are being filled with a split log drag.

The oiled earth model shows a section of dusty road; same road plowed, harrowed and ready for oiling; asphaltic oil spread on plowed surface; mixing oil and earth; finished road.

The sand clay model shows section of an old sandy road; same rounded up ready for clay; 6 or 8 inches of clay spread on; mixing clay with disk or tooth harrow when wet; finished road after being shaped with road machine.

The gravel road model shows prepared subgrade and gravel shoulders; first course of gravel spread and rolled; second course of cementing gravel and finished road.

Gravel macadam model shows prepared subgrade with earth shoulder as in regular macadam road with shoulder drains; first course gravel; second course of cementing gravel and finished road.

Telford model shows prepared subgrade and earth shoulders Telford base of rock laid by hand; layer number one of crushed rock; layer number two of crushed rock; coating of binder, screening and dust; finished road.

Macadam with V shaped foundation intended to take the place of Telford. V shaped foundation, sloping to center instead of sides; earth shoulders and shoulder drains to carry water from foundation to side ditches. Boulders dumped into foundation to a depth of about 18 inches in center. Number one course of macadam; number two course of macadam; screenings and dust; finished road.

The burnt clay model shows ridges four feet apart across the road; cord wood four feet long and clay laid in alternate layers to a total depth of about four feet, with bark and chips in flues ready for burning; clay burnt down to clinkers; clinkers broken up by hammer or roller. Finished road.

Crushing plant shows quarry face in background; crusher elevator; screens and bins for three sizes of stone. Crusher is operated by small motor enclosed in miniature engine house.

Macadam road shows subgrade with shoulders of earth and shoulder drains; number one course of 2 to 2½-inch rock placed to a depth of from 6 to 8 inches rolled; number two course of 1 to 1½-inch rock rolled to a depth of from 2 to 4 inches. Another macadam road model shows miniature steam roller in actual operation finishing macadam road, the ¾-inch screenings of stone and dust having been previously applied.

The tar macadam road model shows dusty macadam surface; same swept and cleaned; hot tar or asphaltic oil broomed into the surface; sand and stone screenings spread to take up surplus tar or oil.

Tar macadam penetration method; prepared subgrade; macadam course number one, rolled; number two course of macadam; hot tar or asphaltic oil flushed onto surface. Screenings and dust applied to take up surplus tar; finished road.

The slag tar model shows prepared foundation same as regular macadam; crushed slag same as number one course of macadam; crushed slag same as number two course of macadam, but coated with bitumen before being applied to the surface; same with bitumen or asphaltic oil flushed onto the surface; screenings or sand applied to take up surplus bitumen; finished road.

Sand bituminous macadam prepared foundation same as macadam; number one course of macadam; number two course of macadam coated with hot tar or oil before it is applied to the surface; thin coat of sand mixed with tar before being applied; stone dust applied to take up surplus tar; finished road.

Tar macadam, Gladwell method. First course regular number one macadam, thin layer of stone, screenings coated with hot tar before it is applied; number two course of crushed stone rolled until screenings begin to work through; same with hot tar flushed on; screenings and dust applied to take up surplus tar; finished road.

Sections of tar macadam roads built in Washington, D. C., in 1872-3-5-7 are also shown to illustrate the life of this class of construction.

### Purchase Stone Property.

GREENCASTLE, IND., Sept. 2.—The France Stone Company, of Bloomville, and the Erie Stone Company, of Indianapolis, have purchased the business and property of the Ohio and Indiana Stone Company, at Greencastle, Ind. N. R. France has been elected president of the new organization and the capital stock has been increased from \$75,000 to \$100,000. The new company is said to be the largest in Indiana.



## FROM OUR OWN CORRESPONDENTS

### PHILADELPHIA.

PHILADELPHIA, Pa., Sept. 16.—There has been a great demand for Portland cement during the summer months. Although the prices were a little low, there seems to be very little complaint, owing to the volume of business, which has resulted in comparatively good profits.

The market for lime, sand and gravel has been equally as good, with prices holding steady.

H. M. Fetter, second vice-president of the William G. Hartman Cement Company, reports that the month of July was their banner month, and business is continuing in a most satisfactory way. While prices are not so good, the orders are very good and profitable.

J. B. King, of J. B. King & Company, manufacturers of Nova Scotia gypsum products, says that, while prices are a little low, business in general is very good and is steadily increasing.

H. J. McLaughlin, assistant manager of the National Fire Proofing Company, states that business is very good. They have twenty-six factories scattered throughout the country, and all are running on full time.

Among some of their contracts are the following: Nine floors of reinforced cinder concrete slab, in the steel frame building of the Hotel Strand Annex, 46'x128', Atlantic City, of which Irvin & Leighton, formerly with Roydhouse-Arey Company, have the contract. F. B. Off, architect, designed the plans. Eighteen floors, partitions and furring of hollow tile in the steel frame building now being erected at Broad and Chestnut Streets, known as the Morris Building. Residence for J. Cooke, Third and Chestnut Hill, which will be of a combination of concrete and tile floors, with exterior walls and partitions of hollow tile. The new dormitories, Nos. 27 and 28, University of Pennsylvania; floors, partitions and furring of hollow tile; exterior walls of brick, with stone trimmings. The floors, partitions and furring for the John Marshall Public School, Frankford, Pa., of hollow tile. Garage for Mr. Trask, at Sarato Springs; floors of combination concrete and tile and exterior walls of hollow tile. Floors, partitions and furrows for the Wilmington Gas Company, Wilmington, Del.; building of hollow tile. Exhibition building for Lancaster County Agricultural Fair Association, Lancaster, Pa.; exterior walls of hollow tile. Floors, partitions and furrows for the seventeen-story addition to the Real Estate Trust Building, Philadelphia, of hollow tile. E. E. Nickson, manager of the company, is at Atlantic City, looking after the work in the construction of the Hotel Strand Annex.

S. S. Wright, with the Charles Warner Company, states that their Portland cement plants are working overtime and their shipments of lime, sand and gravel are very heavy. While lime is selling at a fixed price, they could stand an increase in price for cement, but, owing to the volume of trade, have no room for complaint.

Raymond W. Hilles, manager of Samuel H. French & Company, reports business with them as very good.

Henry C. Mercer, proprietor of the Moravian Pottery and Tile Works, Doylestown, Pa., in erecting his new residence of reinforced concrete, has developed a plan for the decoration of walls, exterior and interior. In building the vaulted cellar, Mr. Mercer found by using the wooden forms that it consumed too much time in waiting for the concrete to set, and strack upon a plan of clay forms. Pillars were molded in the regular way by means of board casing and across these were laid wooden beams and boards; grass and hay were strewn over this and then earth molded by hand was piled in to the desired height, and the arch tiles were laid along the groin guides upside down and the wet concrete was poured over the earth mound. When the concrete had become sufficiently hardened, the supports were removed and the earth fell to the floor, leaving the tiled arches exposed.

This method proved such a success that it was followed in the construction of all rooms having vaulted ceilings and effecting many beautiful designs. The house will be three stories front and two back. It will contain eighteen rooms. The roof will be of concrete, with Spanish handmade tiles of a brilliant red hue, and will give a most artistic effect. The floors are all to be concrete and tile.

George F. Lasher will open bids this week for the reinforced concrete structure to be erected at Juniper and Cherry Streets. The building will measure 120'x150'. Estimated cost, \$300,000.

Work has started on the fireproof factory building for F. W. Tunnell & Company at Wheatshaf Lane and Gaul Street. The building is to be of reinforced concrete and brick. Estimated cost \$36,000. Balinger & Perrot architects.

The contract has been awarded to Calvin W. Rogers for the construction of a moving picture theater 40'x100' at 1205-1209 N. Fifty-seventh Street. Estimated cost \$12,000. F. R. Stuckert architect.

The city of Philadelphia has opened bids for the construction of two bridges, one located at Tabor Road and the North Penn Railroad, to be built of steel plate girders on concrete abutments. Estimated cost \$52,000, and the other at Sixty-fifth Street and the Pennsylvania Railroad crossing, with concrete encased steel at a cost of \$20,000. Bids were also opened for the construction of new sewers, inlets, etc. Lowest bid \$30,000.

John G. Brown has been awarded the contract for building a six-story warehouse for P. Blackiston's Son & Company, Walnut and Warnock Streets, to be of reinforced concrete construction. Estimated cost \$50,000.

Chas. W. Denny has started work on the five-story reinforced concrete structure for the Quaker City Cab Company's garage, 90'x140', to cost about \$85,000.

Jos. Pagnacco has been granted a permit to build fifty-nine dwellings at Wister and Collum Streets. Estimated cost \$125,000.

The De Frain Sand Company has acquired title from Geo. D. Van Seiver for the machine shop, including wharf, at southeast corner of Berks and Beach Streets, and the warehouse at the northeast corner of same streets. Assessed valuation \$107,000. They also acquired title from the concrete Real Estate Company to three adjoining lots, including warehouse and stables, for \$63,000.

Doyle & Co., contractors, have started work on the Curtis Publishing Company's building, which will cover an area of about 35,310 square feet. The building will be situated in the block running from Walnut to Sansom Street, fronting on the west side of Sixth Street, extending about 236' back. It is to be a ten-story structure, 178' in height and built of structural steel, entirely fireproof, with exterior walls of limestone, marble and brick. Estimated cost \$1,750,000. The plans were designed by Frank C. Roberts & Company and Edgar V. Seeler, architects. In addition to this there will also be a power plant erected on the site, costing about \$500,000.

Henry T. Saunders has purchased the old factory building at Nos. 635-37 N. Broad Street and will build a modern reinforced concrete garage on the site.

Simon & Bassett, architects, 1112 Chestnut Street, have plans ready for a reinforced concrete fireproof building to be erected at Thirty-third and Walnut Streets. Estimated cost \$80,000.

A business meeting of the Engineers' Club, of Philadelphia, was held Saturday evening, September 18. Henry H. Quimby (active member) read a paper (and illustrated with lantern slides) entitled, "The Substructure of the Passyunk Bridge."

Outline of paper: The abutment and piers for the bridge to be constructed over the Schuylkill River on line of Passyunk Avenue, at Point Breeze, Philadelphia, have recently been completed and are ready for the superstructure. They are all of concrete. Some were founded on wooden piles and others were carried to bed rock by pneumatic process in wooden caissons. The west shore of the river in which the west abutment and eight of the piers are built is a swamp, where the mud is from thirty-five to forty feet deep, requiring piles from fifty to seventy feet long. The river piers are 100 feet high, over half of which is below the bed of the river.

They have recently issued a pocket directory of the Engineers' Club for 1909, which gives a complete list of members, together with by-laws and other valuable information.

The Empire Brick and Sand Company, Jersey City, was chartered August 27 under New Jersey state laws; capital \$50,000.

The Dittenbaugh Construction Company, Washington, D. C., capitalized at \$50,000, has obtained a charter under Delaware state laws, August 27.

The Unit Construction Company, St. Louis, obtained a charter under the Delaware state laws August 30; capital \$2,000,000.

The United Engineering and Construction Company, Toledo, O., has taken a charter under Delaware state laws; capital \$1,000,000.

The Supply and Construction Corporation, Morristown, N. J., has obtained a charter under the New Jersey state laws; capital \$125,000.

The Keystone Sand and Gravel Company, Erie, Pa., have incorporated under the Pennsylvania laws; capital \$60,000.

The Maryland Clay Products Company, Ardmore, Pa., obtained a charter under the Delaware state laws; capital \$250,000.

### PITTSBURG.

PITTSBURG, Pa., Sept. 20.—Conditions in the building supply trades are again beginning to assume their old form, so suddenly broken off in 1907, when the panic landed with both feet on general business prospects in this vicinity in particular, and in all parts of the country in general. During the past month general industrial conditions have been improving so rapidly in this end of the state that practically all of the lost confidence has been restored, and again good times are rapidly approaching. With the resumption of practically all the mills and other industrial plants in this region there has been a steady rush to start up new improvements, and also to take up projects that were just about to be placed under way, or which were under way and stopped temporarily. This has created a greatly increased demand for building materials of all kinds, particularly for cement, brick, sand, plaster and lime. The houses handling these materials all report a steady increase, with every indication that it will continue until the coming of winter.

The local cement market is stronger than it has been for a long time, and some large orders for Portland cement are being placed with the local building supply houses, as well as with the manufacturers of cement. Prices have been strengthening slightly during the month of September, and prospects for improvement are generally anticipated.

As this letter is being written bids are being taken by the Brookville and Mahoning Railroad for the construction of that portion of the proposed line from the present southern terminus at Knoxdale, Pa., to Mahoning, a small town on the Allegheny River above Pittsburg. This contract will be awarded the latter part of this month, and in addition to the grading for the railroad will call for a large amount of concrete construction. There will be four large aqueducts on this portion of the line, and concrete will be used in the construction of the abutments, bases and pedestals of all. There will also be six tunnels, in which concrete will also be an important factor, as it will in the numerous retaining walls, culverts, etc., along the entire line. Work is to be put under way as soon after the awarding of the contract as is practicable, and will be continued throughout the entire winter unless there is some particularly severe weather. The contract for the entire construction of the road will be awarded, and the successful contractor will then sublet the concrete work along the entire line.

Plans for the construction of a system of mechanical filters, reinforced settling basins, etc., for the Board of Public Service of East Liverpool, O., are being revised by the engineers, John W. Hill & Sons, 506 First National Bank Building, Cincinnati, O. Bids were taken several weeks ago on this work, but were considered excessive and were rejected. If possible a contract will be let and actual work started this year.

The General Concrete Construction Company, Cleveland, O., has been awarded the contract for the construction of a modern concrete sewage disposal plant at the Soldiers' and Sailors' Orphans Home at Zenia, O. The contract price for the work, which is to be started at once, is \$13,307.

The Altham Sand Company, Germania Bank Building, Pittsburg, has completed the erection of its new sand plant at Thompson Station, Warren County, Pa., and placed it in operation for the first time on September 1. The concern has built a large modern and well equipped plant, in which complete labor-saving equipment, conveying systems, etc., and powerful crushing machinery have been installed. The company has a large tract of land which is underlaid with a twenty-foot vein of sand rock, which an analysis has shown to contain over 99 per cent silica. The quarry has been opened, and the sand rock is lowered on an 1,800-foot tramway, which has a fall of 700 feet to the plant. The plant itself is equipped with a nine-foot pan and twelve-inch Muller wheels. It has a capacity of about forty tons per hour, all of which is being shipped at the present time. The outlook for the success of the new concern is excellent, as enough business has already been booked to insure the steady operation of the plant to its capacity for the remainder of the year at least.

The construction of the new plant of the Crescent Portland Cement Company at Crescentdale, Pa., has been completed, and early this month the entire mechanical equipment and cement making machinery was thoroughly tried out. Everything worked perfectly, and it was decided to place the entire new plant in full operation at once, which was done. The plant is now working to its full capacity, as the concern has a large amount of contract business on its books. So much cement has been shipped during the past few months that the stock is almost entirely wiped out, which has necessitated a marked increase of production. The old plant has been operated steadily to its capacity, which is about 400 barrels per



day, with more than this amount of new business coming in daily. The new plant has a daily capacity of about 3,500 barrels, so that during the remainder of this year at least the company will produce about 4,000 barrels of cement. In addition to these two plants the company is also operating a lime plant at the above place, and this industry is also being operated to its capacity to keep up with the business on hand. The general offices of the company are in the Farmers' National Bank Building, Pittsburg.

The plans prepared by the city of Pittsburg for the proposed new \$1,000,000 bridge across the Allegheny River at the Point have at last been approved by the United States Government engineers, and it is expected that bids will be asked for within a very short time. The masonry will all be of concrete, and there will also be approaches several hundred feet in length constructed of the same material. The cement companies in and represented in this city are already commencing to lay plans for landing the contract for the thousands of barrels that will be used, and there promises to be much competition. There will be retaining walls at each side of the approaches, one of which will be 850 feet in length and the other 894 feet. The bridge will have a concrete floor, with concrete sidewalks for the foot traffic.

The Department of Public Works, Pittsburg, has approved ordinances for a large number of public improvements that are to be made just as soon as possible. These include the paving of many streets and the construction of several bridges. All of this work will include the use of large quantities of cement, especially the reconstruction of the Larimer Avenue bridge, which is to be done at a cost of \$175,000. Some of this work will be placed under contract and started this fall and winter.

The Sebring Art Stone Company, Sebring, O., has been incorporated under the laws of that state, with an authorized capital stock of \$5,000, and will engage in the manufacture of concrete brick and building blocks, special concrete specialties for building, porch columns, fence posts, etc. The incorporators of the new concern are L. V. Malley, Edward Barrett, Frank Strohl, E. W. Lewis and J. M. Larkins, all of Sebring.

## CLEVELAND.

CLEVELAND, O., Sept. 20.—The building outlook in this vicinity continues excellent. Many new projects of considerable magnitude are being started and the call for cement is unusually heavy, breaking records for several years. Cleveland always experiences a busy fall season in cement, which is now selling at about \$1.25 in car lots up to \$1.40 for wagon deliveries.

Many manufacturing concerns are making additions, a sure indication of the return of good times. Residence permits are being issued at the rate of about fifty a week, so the city continues to expand quite rapidly. Many interesting uses for concrete are seen in the building operations here.

Work is now in progress on the \$150,000 grandstand for the Cleveland Baseball Club. The main stand will be double decked, with a steel canopy roof, while about the grounds are other large stands. All the work on these will be of reinforced concrete, the pillars supporting the roof and the roof itself being of steel. The main stand will have a length of 265 feet and will be double deck, with an "L" 224 feet long extending along another side of the park. Other pavilions will be 223 and 200 feet, respectively. The general contract for the concrete work has been let to the Reaugh Construction Company, plans having been prepared by the Osborn Engineering Company, of Cleveland. Considerable interest in other cities is being manifested, as the concrete contractors are maintaining an open shop policy. Cleveland labor unions have sent placards broadcast in other cities, asking labor unions to boycott the Cleveland Club on its rounds of the circuit. It is expected that the concrete work will be all in and firmly set by the time snow flies. The finishing touches will be put on early next spring before the baseball season opens.

Plans are being made for a fine concrete tuberculosis sanitarium to be built just west of the Cleveland city limits, at a place known as Mulberry Park, capable of housing 1,000 patients. Dr. S. Goldberg, of Cleveland, has acquired the forty acres of park land at a cost of \$60,000, and has interested prominent physicians in the matter. An all-concrete structure is planned to be placed on the ten acres adjoining Lake Erie. There is fine building sand and gravel in the vicinity, so the principal expenditures will be for cement and labor.

Big Cleveland contractors are watching with interest the deliberations of the commissioners in charge of the remodeling of the Ohio state penitentiary at Columbus. At the last meeting of the state legislature an appropriation of several hundred thousand dollars was made for the rehabilitation of the present

antiquated buildings. The board in charge has been making some extended investigations and has found that to remodel the present buildings would still leave a very poor building on the state's hands and entirely inadequate for the state's needs. At the coming session of the legislature the board will ask that land owned by the state at Morgan station, near Columbus, be turned over as a site for a new all-concrete penitentiary, and that enough money be furnished to proceed immediately with the erection of the needed buildings. The present penitentiary is considered a death trap and impossible of proper remodeling.

Rapid progress is being made with the city's fireproof buildings at the Warrensville farm of 2,000 acres, owned by the city. A section of the concrete workhouse is completed and in the spring a heavy concrete wall is to be built around it. This wall is to have live wires embedded in its surface and top, so that any prisoner attempting to scale it will receive a shock, at the same time notifying the guards that someone is attempting to escape.

Extensive improvements are to be made at once to the United States life saving station on the government pier. The present dock, which is of wood resting on wooden piles, is in bad repair and is to be replaced by an all-concrete one. The walls will be of reinforced concrete, the center part being filled with sand. The boathouse is to be enlarged and numerous other improvements are to be made. Bids on the work are being taken this month. Right across the harbor mouth work is progressing rapidly on the new \$40,000 government lighthouse, which is to be put into commission early next spring, when navigation opens.

Another splendid concrete dock is being installed by the Corrigan-McKinney Company in the upper river bed, where two new blast furnaces are being installed at a total expenditure of about \$3,000,000. The new dock is nearly 1,000 feet long and is being heavily anchored to the land. On top of it, when completed, will be operated huge ore carrying machinery. Immense quantities of concrete are also being used for footings and foundations in connection with the installation of the furnaces.

Efforts are being made, it is said, to locate in Europe J. P. Townsend, of Akron, O., who is promoter and president of the Chanute Cement and Clay Products Company, the \$4,500,000 enterprise at Chanute, Kan., which is in financial straits. C. B. White, of Fort Scott, Kan., is in charge as receiver. Bondholders believe that Mr. Townsend can assist the receiver in disentangling some of the affairs of the concern and put it on a paying basis. Receiver White plans to raise \$200,000 to complete the big cement plant, so it can be put on a producing basis. If this is done, it will save \$2,000,000 already invested by bondholders, according to reports. Between \$75,000 and \$100,000 of the bonds are held by Akron capitalists, while the Cleveland Trust Company holds \$1,125,000 on bonds as trustee for stockholders. The bonds are secured by a mortgage and will not be delivered until the plant at Chanute is completed and producing 5,000 barrels of cement a day. The assets of the company consist of an operating cement mill in a swamp near Bronson, Mich., and the uncompleted mill at Chanute, which is represented as being a very rich cement field. The bankruptcy petition filed at Fort Scott puts the company's assets at \$2,000,000, with liabilities of \$250,000. A number of Cleveland people are interested in the venture.

The Builders' Exchange held its annual fall clam-bake and outing during the past month and had an enjoyable time. Already preparations are being made for the series of monthly dancing parties and next month the monthly dinners will begin, when prominent men will address the exchange. The organization is now in splendid shape, having over \$22,000 on deposit in Cleveland banks.

J. H. Libby, cement sidewalk contractor, who has been very seriously ill during the past year, is nearing complete recovery. He has been spending the summer at Lake Chautauqua, but was able to come to Cleveland during the past month to attend the marriage of his daughter, Miss Grace Libby, which took place September 12. He returned to Lake Chautauqua to spend the rest of the season.

Although the new concrete span over the Rocky River does not conform with federal regulations regarding its height over a navigable stream, the government authorities have decided that they will not object as the river is not dredged and will probably never be used for the navigation of large boats. Fine progress is being made with the big span, which will be about all poured before snow flies. It is expected that the bridge will be finished by the middle of next summer.

Work on the concrete lighthouses at the harbor entrance has been suspended for the season by Henihan & King, the contractors in charge of this work. The west light will be 150'x100' in dimensions, while the

east light will be 60'x60' in size. Work on the superstructure will be started early next spring. It is hoped that the lighthouse will be ready for the opening of navigation, although this is somewhat doubtful.

A ten-room reinforced concrete addition to the Willard school is to be built by the board of education. The concrete work has been let to the Carey Construction Company, of Cleveland.

## BALTIMORE.

BALTIMORE, Md., Sept. 18.—There seems to be little, if any, improvement in the cement market. Dealers are complaining of the continued low prices received for the products. There seems to be plenty of building in progress, but the fight is among the dealers, and, as stated in previous issues, this section of Maryland, Delaware and parts of Pennsylvania and Virginia is the battleground. Several dealers stated recently that prices that were considered exceptionally low this week might go even further down by next week. The small dealers seem to be the ones that are doing the price cutting, and the large dealer sits up and looks on with amazement.

There seems to be plenty of building going on and most of the large work in this city is the kind that calls for cement. Several office buildings and stores of fireproof construction are in course of construction, while millions of dollars are being spent on reservoirs, dock work and the new sewerage system. Suburban development companies have commenced to erect concrete houses and granolithic walks are being laid by the mile.

One of the most important contracts recently awarded in this city was let a few days ago, when the mayor and city council commissioned Daniel Harding to build the \$200,000 improvements to Bay View Asylum. All the plans for the improvements have been completed by Architects Parker, Thomas and Rice, and the work of construction will begin in a few days. The building is to be a three-story fireproof structure, Y-shaped and will be located near the present main building of the asylum in the eastern section of the city. The dimensions of the vertical part of the Y will be 80'x40' and the two extensions will each be 90'x42'. The foundations will be concrete and the main building will be steel and concrete, with red bricks for the outside walls. Stone and galvanized iron will be used for the cornices and the trimmings will be stone. Slag will be used on the roof. The interior will be finished in a plain and attractive style. Extra precautions have been made for sanitary arrangements and the different wards will be modern in every respect. The rooms of the patients will be light and airy and the latest plumbing and fixtures will be installed. It is understood a number of subcontracts will be awarded. The work of building will require several months.

Architects Haskell and Barnes have finished plans for a new church to be built for the congregation of the Milton Avenue Methodist Episcopal Church. The building will be a one-story and basement brick structure and will be located at the corner of Milton Avenue and Oliver Street. The dimensions will be 43'x52' and it will cost about \$16,000. The contract for the construction has been awarded to P. J. Cushen.

There has been a continued activity in the construction of two-story brick dwellings in this city during the past month. The Urban Realty Company will build 100 houses in the western section of the city, to cost about \$150,000. They will be built on the two blocks bounded by Saratoga, Mulberry, Pulaski, Smallwood and Bentalou Streets.

John T. Donohue has started an operation of thirty-five houses in the eastern section of the city, to be followed by as many more as soon as they have been completed. He has purchased four city blocks and proposes to build them up as soon as possible. The property is near Patterson Park and he contemplates spending \$300,000 on improving it.

Snow & Mearns, importers, have awarded a contract for the erection of a modern six-story brick and partly fireproof warehouse, at 21 and 23 West Baltimore Street, to James F. Farley. The dimensions of the building will be 37'x105'. Plans for the structure were made by Architects Ellicott & Emmert.

J. Elmer Stanfield has nearly finished the new addition to the Hotel Caswell. The new part is a seven-story brick and fireproof structure on the Baltimore Street side and cost about \$50,000.

J. Henry Miller, who was awarded the contract for the erection of the new \$225,000 car barn, to be used as the Druid Hill Park terminal of the United Railways and Electric Company, by the Maryland Electric Railways Company, is pushing the work rapidly ahead. The foundation of the walls is in and the reinforced work has been started.

## SYRACUSE.

SYRACUSE, N. Y., Sept. 17.—A ROCK PRODUCTS man had a pleasant chat with W. K. Squier, of the Paragon Plaster Company. Mr. Squier said he was good and business good, but prices rotten. Their sand lime brick business is running more satisfactorily than ever before, and this factory is taxed to its utmost capacity. The same is true of the concrete block department. They are making the Denver two-piece block, and the local demand is very extensive, as is also the demand for face brick. The plaster business has been very fair all summer, but prices are in a bad fix.

The writer saw C. H. Pack, of Geo. W. Pack & Son, manufacturers adamant plaster and clay brick and retail dealers in cement and masons' supplies. Mr. Pack said their business is confined almost entirely to local fields. They are very busy at the brick yards, being rushed to fullest capacity in supplying the Syracuse market. They have purchased the A. E. Alvord lime mill, have entirely renovated it and are turning it into a plaster mill. It is up-to-date in every way and is all run by electricity, with a large capacity. In the brick works they are producing about 35,000 bricks per day for local consumption. They, together with the Onondaga Vitriified Brick Company and C. H. Merriek are furnishing the 1,750,000 brick for the Onondaga Hotel, which is now being built in Syracuse. They have finished the plastering on the new Union Realty Building, and Mr. Pack says it is the neatest job he ever saw. They are receiving cement by the boatload from the Cayuga Lake Cement Company, of Ithaca, for their retail trade. They get their sand from Frank E. Gallup, of Booneville.

The Onondaga Vitriified Brick Company sell direct. They are busy with their hand brick business and report prices good.

The writer was fortunate in meeting here today W. J. Thompson, of the Marengo Portland Cement Company, located at Caledonia, near Rochester. They have recently purchased the well-known Iroquois plant and have rebuilt it, using the semi-dry process on the raw end. They did not actually begin shipping to the trade until June 20, although they were practically ready for business in May. They are using Fuller tube mills on the finishing end and are turning out 1,200 barrels per day. They are to install more kilns, however, and bring the output up to 2,500. They get a 15-cent freight rate to Rochester and about 18 cents to Buffalo. They recently shipped ten barrels to A. A. Pauly, of Youngstown, O., for use in manufacturing his concrete tile, and Mr. Pauly writes that it turned out as white as chalk and he is greatly pleased with it.

Harry S. Hayden is general manager of the Empire Portland Cement Company, which is located at Warners, a few miles out of Syracuse. He is not very busy now and the ROCK PRODUCTS man spent a delightful afternoon in his company, no small part of the entertainment being a visit to that wonderful concrete structure known as the Archibald Stadium at Syracuse University. Every bit of the cement used in this was from the Empire mill, and 28,000 barrels were consumed. The aggregate used was sand, gravel and crushed limestone. It was built in 1907 and is a great advertisement for the Empire Company. The Empire Company started business in 1886 and was the second mill in the United States to turn out a straight Portland cement, using at that time the old upright kiln process. They have had three fires, which have each time destroyed the plant, and in 1900 they rebuilt with modern equipment, using rotary kilns, giving a 650-barrel capacity. Although it is a marl proposition they have several advantages in production, principally that the clay lies directly underneath the marl, so that both are mined at one operation; it passes through the tube mills, pumped from there into the slurry tanks and into the kilns. In the finishing end there are two cup ball mills and two tube mills. They put a lot of money into the equipment last year and it is better than ever before. They opened the mill March 29, the earliest that it was ever put in operation. April and May were the biggest months in the history of the company, but they shut down June 1, and the directors have decided that owing to the unsettled condition of the market they will not open again until there appears to be an improvement. In the meantime they are investigating the advisability of taking up the dry process. There is plenty of lime rock in the vicinity, and they are looking into it very carefully. Some of it which they have tested runs as low as 3½ per cent magnesia on the average. Mr. Hayden started in with the company eight years ago and by ability and energy has climbed to the top. For the past three years he has had full management of the company and has handled it with success.

## LOUISVILLE.

LOUISVILLE, Ky., Sept. 18.—Building is coming with a rush in Louisville, and all lines related to the industry are showing appreciable increases in the volume of work being turned out. Not only are the general contractors and the architects busy, but the detail men, the cement manufacturers and the brick and tile people are being kept on the run. While prices in most lines are steady, the demand is such that nearly everybody sees a fair profit. That is, everybody except the cement man, for in this branch, more than in all the others, the evil effects of competition on price are visible.

The number of permits taken out in the local building inspector's office during August was 261, the same number as last year, but the value they represented was only \$253,362, compared with \$339,813 for August, 1908. This decrease is explainable because of the fact that a lot of new buildings which are to go up in the next few months have not yet been provided for by permits. The fiscal year in Louisville ends August 31, so figures are available for the year's work in building. The number of permits issued was 2,984, compared with 2,733 for the fiscal year 1908. The value of the buildings erected this year was \$2,881,601, compared with \$2,656,629 for 1908, a slight gain. But it is believed that for the calendar year, in view of the large number of permits to be issued in the next month or so, a large gain for 1909 will be shown.

Some of the new buildings for which contracts are to be let shortly, in addition to those which have already been mentioned in this correspondence, are a \$200,000 tenement power house, to be built by Udolpho Sneed on Market Street, below Eighth, D. X. Murphy & Bro., architects; a new power house for the Street Railway Company, costing \$70,000; an annex for the Pendenis Club, costing \$50,000, McDonald & Dodd, architects; a new building for the McFerran Memorial Baptist Church, Gray & Hawes, architects; the new Seventh Street depot of the Illinois Central, to cost \$125,000, I. C. Enger, Chicago, architect. In addition a contract has been let to J. Bornstein, of Louisville, for the construction of the administration building of the State Normal School at Bowling Green, to cost \$116,100. This is one of a large group to be built for the normal school.

C. M. Timmons, sales manager for the Kosmos Portland Cement Company, said that the plant is running night and day to take care of orders, and is turning out in excess of 1,700 barrels daily. Some good-sized contracts have been secured for Kosmos of late by Mr. Timmons. He got the contract for the Versailles postoffice, the Owensboro postoffice and courthouse, which is to be built by the American Engineering and Construction Company, of Chicago; a 5,000 barrel contract for sewer work here; the Illinois Central contract for work at New Orleans, for which an initial order of 3,000 barrels has already been shipped; the London and Danville postoffices; an office building at Helena, Ark., which will use 2,000 barrels, and the contract for furnishing cement on the new Walnut Street Theater. Mr. Timmons was recently in Chicago and secured some good business. He said that the South is proving a fertile field, North Carolina particularly having bought heavily of late. Vice-President Charles Horner has returned from his vacation, which he spent with home folks in Philadelphia.

Henry Gray, of J. B. Speed & Company, is out of town. He is not taking a vacation—he hasn't had any for fifteen years—but is out on a business trip. Reports at the office, however, were that business is improving considerably, compared with the results last month. It is reported, by the way, that the Speeds have abandoned their hydraulic cement plant at Eighteenth Street and the Canal, on account of the small demand. Considerable speculation is being indulged in, also, as to the Speed interest in the new cement company which is being organized in Mexico.

The National Concrete Construction Company has landed the contract for the construction of the power plant of the Fetter Lighting Company. It will be built of reinforced concrete and steel. The total cost of the building will be \$200,000. The National will also build the Walnut Street Theater, which will be of brick, steel and reinforced concrete construction. Contracts have been secured from the Sewerage Commission by the National for the construction of concrete piles at the river, where the sewers empty, for the purpose of supporting them during low water and holding them down in high. Webster Gazley, of the company, is still working for the Water Company, in connection with the filter plant, but expects to get back on the contracting job about October 1.

The Central Concrete Construction Company reported that business is looking up, and that they have all they can take care of. Two contracts for concrete block houses have recently been secured, and there are indications that this type of construction

is getting to be more popular in Louisville. Fall trade will be fine, it was stated.

There is as much, if not more, business now, according to the National Roofing and Supply Company, than is usual at this time of the year, and while no large contracts have been secured, there is a run of general work which is keeping them busy. The outlook for the fall is exceptionally bright.

Business with the Ohio River Sand Company is still at a high-water mark, and the two diggers which are now in commission are finding it a difficult matter to keep up with the demand. The sewer work, together with the good lot of building going on, is accounting for the heavy demand for sand, while the Avery plant, which has been begun, is going to use up a lot.

The Utica Lime Company, which is the local agent for the Lehigh Cement Company, said that business is good. They are filling part of their contract for the Avery plant and the coagulating basin of the Water Company, and getting a lot of smaller business besides.

Burrell & Walker said that business is picking up a little, and that many sewer connections and flue linings in new residences are being put in. Prospects are better than present business, however, because there is a lot more building coming than is being actually done right now. "How about prices?" Mr. Burrell was asked. "They've been steady for forty years," was the laconic reply.

The Bannon Sewer Pipe Company said that business is good, and that the sewers are using a lot of pipe. They are building some of the smaller "lateral sewers" now, and the pipe can be used on them, whereas pipe was, of course, out of the question on the larger parts of the work. A publication in a local paper—used for political purposes—showed how greatly the price of pipe has fallen off in the last few years. Thirty-six inch pipe, for instance, is now selling at \$1.65 a foot, compared with \$2.10 in 1906.

J. W. Arn, assistant of Chief Engineer Baldwin, of the Illinois Central, is in town, in charge of the building of the Seventh Street Depot, for which a permit has been issued. George B. Swift & Company, of Chicago, are the contractors for the building.

Owen Tyler said that he will begin the construction of his new seven-story hotel at Third and Jefferson Streets within the next few weeks, and is now having specifications prepared by his architects. A new feature added to the building is a convention hall on the top floor.

The Louisville Furniture Manufacturing Company will build a two-story reinforced concrete structure at Thirtieth and Kentucky Streets.

The levee is being reconstructed. Concrete forms are being used in the work, and the first of them have recently been installed. The wharf is being greatly improved.

A good many sewer contracts will be let this month. September 20 bids will be received on four big sections of the northwestern sewer. Most of the work is now under contract. It is said that the cost of the system, which was originally estimated at \$4,000,000, will be considerably less than that on account of keen competition between the contractors and the decrease in the price of materials.

The Standard Glass Block Company has been organized at Frankfort with a capital stock of \$2,000. The company will manufacture a patented glazed brick. The capital stock will shortly be increased and a plant built, it is reported.

The Builders' Exchange had its annual outing on Labor Day. It was held at Hike's Point, and was attended by 300. There were all sorts of contests, including tree-climbing, foot races, peanut-rolling races, and shoe contests, and Chairman E. G. Heartick, of the committee in charge, arranged a baseball game, which will go down in history as one of the greatest which ever took place on any diamond. Otto Yost, city buyer, was the umpire, and officiated in a way that saved him from being lynched. The general contractors played the subcontractors, and the latter, by a rousing ninth-inning batting rally, won out by the score of 33 to 29. An unofficial box score of the game is as follows:

Subcontractors.	AB.	R.	H.	PO.	A.	E.
Marcum c	10	5	7	4	0	1
Meyer ss	3	1	5	3	2	
Bohne rf	6	0	0	1	0	6
Watts lf	11	5	2	4	1	7
Wolf 3b	7	7	1	5	2	2
Clarke cf	9	3	3	2	1	5
Zulauf 1b	10	1	0	6	2	0
Ottensheimer 2b	6	0	0	0	0	0
Ackerson p	8	3	0	0	0	0
Totals	78	33	14	27	9	23
Gen. Contractors.	AB.	R.	H.	PO.	A.	E.
Gilmore c	8	4	1	1	2	0
Brunser p	7	5	3	1	3	8
Jenkins 1b	9	3	5	7	2	6
Kohnhorst 2b	10	7	0	8	4	0
Albrecht 3b	5	2	2	4	3	2
Graham ss	8	2	4	2	0	3
Warren rf	11	1	6	1	0	1
Hamilton lf	6	2	2	2	2	0
Schoo cf	9	3	2	1	1	4
Totals	73	29	25	27	17	23



## BUFFALO.

BUFFALO, N. Y., Sept. 18.—A distinct improvement characterizes business in the local rock products industry. The building situation in this city and elsewhere is reported by the local trade to be very active. Railroad improvements, canal barge work and other enterprises now building and requiring cement are bringing much business in that commodity to local dealers. The demand for building supplies shows a perceptible gain and optimism over the future business outlook is everywhere noted in the local trade.

M. A. Reeb reports business to be very good; in fact, much better than it has been in the last two years. Mr. Reeb is supplying cement for the local railroad grade crossing improvements, the new addition to the Ziegele Brewing Company and many other smaller jobs.

The Thorn Cement Company, whose headquarters are in the Prudential Building, report that their present business is very much ahead of that of a year ago. They are supplying Lehigh Portland cement for the waterworks plant and several other important local and out-of-town contracts.

Councilman Jacob J. Siegrist, who has just been nominated for mayor of Buffalo, is advocating the construction of a new market for this city. He says concrete, steel and glass should be the materials to be most used in the proposed structure.

Schulte & Geer, of Lestershire, N. Y., will construct a concrete culvert over a creek near Recreation Park in that village.

Gibbs & Waltz, architects of Ithaca, N. Y., have prepared plans for a new theater to be built in Elmira, N. Y., at a cost of about \$30,000. The building will be of concrete blocks and fireproof. Ira and George Von Demark, of Elmira, are the prime movers in the proposition.

Quinlan & Robertson, of Montreal, were the lowest bidders for the \$1,000,000 contract for widening and deepening the city aqueduct of Montreal.

The concrete foundations for the structures to take the place of those destroyed by fire, which recently visited the Provincial Parliament Buildings of Toronto, Ont., have already been laid. Architect George W. Gouinlock, of Toronto, has been instructed to call for bids for rebuilding some of the structures.

According to a report from Batavia, N. Y., Trumbull Cary, of that city, was recently ordered by the aldermen there to lay some cement walk in front of a piece of his property. Instead, it is said, he re-laid 2-foot flags. He was then ordered to take up the flags and lay cement. It is also reported that he was told that unless he complied with the order the work would be done by the village and the cost would be charged to him. The outcome of the controversy was that the village laid the cement walk.

Plans are being prepared, under the supervision of the United States engineer's office in Buffalo, for the work of reconstructing the sewer outlet under Black Rock harbor in this city. The cost will be about \$150,000.

According to a member of the Toronto (Ont.) Ferry Company, the buildings recently burned at Hanlon's Point, in that city, will be rebuilt at a cost of more than \$500,000. Much concrete and steel will be used. New concrete steel stands to seat 20,000 persons will be erected.

A new building erected by the Monarch Plaster Company, at Wheatland, N. Y., was recently destroyed by fire, the loss being about \$10,000. The plant is owned and operated by Rochester, N. Y., men, H. J. Hunt being president and H. C. Nobels secretary-treasurer.

Residents of East Avenue, Lockport, have begun an action against that city to have an ordinance for a uniform cement sidewalk on the street declared illegal. The protestors claim that they had fine walks in front of their places and that the city, therefore, had no right to tax them for others.

A claim of \$429,877 has been filed against New York State by the Ferguson Contracting Company, of New York City. The corporation had a barge canal contract at Waterford, N. Y., and while the work was in progress the state engineer changed the plans and the company stopped work, and now claims damages.

The Ideal Concrete Machinery Company, of London, Canada, had an interesting exhibit at the Toronto (Ont.) Exhibition.

It is said that a concrete pier will be built at the head of the Canadian locks at Sault Ste. Marie, at a cost of \$75,000.

The American Locomotive Company will spend a big sum in improving their shops at Dunkirk, N. Y. The Reed-Coddington Company have a contract to complete the building of a trunk sewer at Niagara Falls.

John H. Coxhead and Robert North, Buffalo architects, recently prepared plans for a new high school building for Kenmore, N. Y.

A report was recently submitted to the Board of Supervisors in this city in regard to improvements at the Erie County (N. Y.) almshouse here. Among the features will be cement and sanitary floors costing \$4,000.

Cyrus K. Porter & Son, architects, prepared plans for a three-story addition to the department store of the William Hengerer Company, of Buffalo.

According to Deputy Engineer Commissioner Norton, of Buffalo, about \$300,000 worth of paving work has been in progress in this city.

J. Friedrich Company and John J. Regan have contracts to build cement sidewalks in Rochester, N. Y.

Daniel F. Higgins, a cement walk contractor of North Tonawanda, N. Y., recently filed a petition in voluntary bankruptcy. He has debts amounting to \$6,954 and assets totaling \$374.

The Wabash Contracting Company, of Davenport, Ia., will build a roadbed and construct a double track on the Falls line of the New York Central, between Lockport Junction and Niagara Falls.

Knoblock & Shelton, of Erie, Pa., have a contract to build a reinforced concrete bridge over Canadaway Creek, near Fredonia, N. Y.

Colson & Hudson, architects, have prepared plans for an office building to be erected in Buffalo by the Queen City Improvement Company.

Work costing more than \$12,000,000 has been accomplished on the New York State barge canal. The total work under contract amounts at present to upward of \$40,000,000.

## ST. LOUIS.

ST. LOUIS, Mo., Sept. 18.—Building is active in St. Louis and covers a great variety of structures. Coming down to particulars, it is noted that there are a number of public buildings under way and two bridges to span the river. The railroads, particularly the Missouri, Kansas and Texas Railway, have important improvements in prospect in the near future. There are a number of office buildings, mostly of moderate size, under contract, also theaters, warehouses and factories. In the line of residences, apartment houses and flats a large amount of work is being let. When the extent of building which has been going on in St. Louis since the World's Fair is considered one wonders where the people come from who are filling up the new homes and the offices in the skyscrapers.

All the dealers in building material report a good demand and expect it to continue close up to the winter season. Manufacturers of lime, plaster and cement are finding an excellent call for their products. A feature of the situation is a marked renewal of buying for improvement purposes on the part of the railroads. The movement of freight is steadily growing in its proportions, and shippers are beginning to be apprehensive of a serious car shortage in December.

Further developments show that the plans of the Missouri, Kansas and Texas Railway contemplate a much larger investment in the way of freight houses and terminals at St. Louis than the earlier reports indicated. It is now stated that the expenditure for those improvements will reach \$4,000,000. They have already secured for this purpose 200 acres of land in the northern part of the city and also a site for a freight station and warehouses in the heart of the shipping district.

A large apartment house will be erected at the West End under the supervision of the Anderson-Stoeck-Buermann Realty Company. The building will be in three sections and will cost \$100,000. It will be located at the corner of Hamilton Avenue and Page Boulevard. The construction will be done by the Stewart & Hay Building Company. The plans and specifications were prepared by Louis Hormann. The building is to be four stories.

The A. A. Fischer Architectural and Building Company will build many apartment houses at the extreme West End and has already planned thirteen at Washington Heights, the aggregate cost of which will be \$250,000. Some of the apartments will be for eight families and one will be for thirty-two. Each building will be a three-story brick and the largest will have a frontage of 300 feet.

E. J. Dougherty will build residences and flats at O'Fallon Heights to cost between \$5,000 and \$6,000 each. There will be about twenty residences and thirty flats. The houses will be two stories high, of brick and terra cotta. The improvements will cost approximately \$300,000.

The West Chamberlain Park Company contemplates disposing of a tract of land in the same neighborhood for the erection of substantial homes and this may be taken over by Mr. Dougherty and embodied in his plan. This would increase the cost of the improvements by about \$150,000.

Robt. S. Brookings will erect a building for the Friedman Shoe Company, corner of Robbins Lane and Washington Avenue. The building will have a frontage of 65 feet and a depth of 135 feet and will be five or six stories high.

The Hall Theater and Roof Garden, to be built near Goodfellow Avenue, will be two stories high and cover a lot 50x125 feet. The front will be of white enamel brick, with massive terra cotta trimmings and an ornamental railing will run around the entire building. It will have a seating capacity of 1,100.

Another theater and roof garden, to be known as the Crawford, will be erected on Easton Avenue. It will run through to Page Boulevard and will follow, on general lines, the Hall Theater. Its seating capacity will be 1,200. The buildings were designed by Charles H. Dietering.

The Equitable Building, corner Sixth and Locust Streets, will be remodeled at a cost of about \$200,000 into a strictly modern office and store building. Isaac H. Taylor will prepare the plans. This building, which was the first modern office building erected in the city, was built in the early '70s and was six stories high. Later it was extended to ten stories.

At Suburban Garden every building with the exception of the café will be razed and the Oppenheimer Brothers will spend \$200,000 in improving the Garden. F. C. Bonsack, architect, will have charge of the work. The café will be remodeled into a hotel, a wing of thirty rooms will be added and the verandas will be enlarged. A theater will be erected which will seat 1,700.

The establishing of the McKinley System's terminals at Morgan and High Streets is resulting in the improvement of that section of the city, and two buildings to cost approximately \$250,000 are to go up within the next few months. Both will be high-glass commercial structures designed for wholesale and retail purposes. One of these buildings—the larger one, 140x80 feet—will be six stories high, brick and terra cotta, with ornamental cornices. A. B. Groves is the architect. The other building, 66x60 feet, will be seven stories high.

At the offices of the Acme Cement Plaster Company E. W. Savage reports that business continues good and that the plaster market is getting out of the unsatisfactory condition of prices that were not fairly remunerative to manufacturers, for certainly the capital invested in a plant ought to at least earn a fair rate of interest. The company is now about to push its new specialty—Acme Woven Wood Lath—in a vigorous manner. This department is in charge of R. V. Steele, who states that since last spring over one-half million yards have been used in buildings of various kinds in different sections of the country. The patent for this new style of lath is now owned by the Acme Cement Plaster Company. Its cost is one-third less than metal lath. It is composed of veneer strips of copula gum with cross pieces of red gum, and each section is 27"x50". The lath will not buckle and secures in its use a "reinforced" wall of plaster, or as the slogan adopted by the company puts it, constitutes "the best base on which to plaster." The woven wood lath is being used for both interior and exterior work and compares in cost with the cheapest sawed lath and is laid more quickly.

The Winkle Terra Cotta Company report a steady demand for terra cotta, both from local contractors and the South and Southwest. Some business is coming in from Oklahoma, and some good contracts have been secured at Memphis, Tenn.

Dropping in at the office of the Glencoe Lime and Cement Company found that Colonel Cobb had returned from his Maine trip and the company is putting in several new kilns for burning lime by gas. While there your representative had the pleasure of meeting Ernest Schmatolla, the inventor of the process, which has also been adopted by Charles Warner & Company, of Wilmington, Del. Mr. Schmatolla has made a business of introducing his process in Germany in past years and is now bringing about its adoption in this country. The Glencoe Lime and Cement Company are contracting for rails to extend their trackage at the Glen Park plant.

The Continental Portland Cement Company report the demand for cement improving and that prices in southern and southwestern territory are better.

Calling at the office of the Union Sand and Material Company found that Mr. Craney was away at the East. When last heard from he was at New York City, where fortunately the weather admitted of his enjoying his vacation trip.

The Missouri River Sand, Gravel and Dredging Company, of Boonville, Mo., has recently been incorporated, with a capital of \$200,000, half paid up. The company is to operate dredge-boats, ferry-boats (for passengers and freight) and to construct canals. Charles Meierhoffer, of Boonville; M. J. Morley, of St. Louis, and Paul Ramser, of East St. Louis, are the incorporators.

Gordon Willis, of the Hunkins-Willis Lime and Cement Company, states the demand for all lines of building materials is very good, both from city and country trade; in fact in addition to employing all their own teams their men at their various warehouses have been obliged to hire extra teams to give prompt delivery. As compared with last fall the change is very marked.



## THE TWIN CITIES.

MINNEAPOLIS, MINN., Sept. 18.—The building season for fall is but just developing, and if it shall show up as well, proportionately, as have the preceding months, the year will be one of the greatest in the history of the Northwest in the matter of building. The generally good conditions ruling, and the fact that a better crop is being marketed and more of it than has been the case in a number of years, should tend to make it better than the previous portion of the year. Both Minneapolis and St. Paul are about \$3,000,000 ahead of the total to September 1 on building permits, as compared with a year ago for the same time. Minneapolis has a total in excess of \$9,000,000, against around \$6,000,000, and St. Paul has \$7,500,000, against \$4,350,000.

The prospects for fall building are good, although there is always the possibility of bad weather throwing things back. But with good weather the remainder of the year should see a large amount of new work started.

The demand for building materials is strong and active and material men state that they can hardly keep up with their orders. Cement is running to strong demand and will have a better season this year than last, although the work is scattered through more different kinds of use than has been the case formerly.

The Minnesota State Fair held its fiftieth annual exhibit the week of September 6, and had quite an array of building materials shown, including exhibits of brick and tile firms from various parts of the Northwest, including several from Mason City, Iowa.

St. Paul's permits for August were double those for the month of a year ago, being \$1,222,056, against \$596,214.

Jeff Schelde, a general contractor of Litchfield, Minn., maintains a trade school at Litchfield, teaching carpentry and brick masonry. The school will open for the winter about the middle of October. This school is turning out quite a number of artisans, and is reported to be doing an excellent work in this much needed line.

The annual convention of the Northwestern Cement Products Association will be held March 1 to 5 in St. Paul, following the Chicago cement show, which ends February 26. There will be two days in which to get exhibits through from Chicago to St. Paul between the shows. The place of holding the meeting is in the hands of a committee headed by George J. Grant, of St. Paul. This is the sixth annual gathering of the Northwestern Association.

Thomas Smith, a pioneer contractor of St. Paul died recently at Glendive, Mont., where he had been engaged in business for some time. He was 71 years of age and was engaged in many of the prominent buildings of St. Paul in the earlier days.

Theodore Kardong, of Minneapolis, has received a patent for a machine for bending rods to be used for reinforcing concrete without the use of heat, which is claimed to affect the value of the rods. The invention has been under test for some months and is claimed to be wholly successful and satisfactory.

The Lowry Apartment Company, of Minneapolis, has had plans prepared by Bertrand & Chamberlin, architects, of Minneapolis, for an elaborate family hotel and apartment building, to be erected at Twenty-fifth Street and Hennepin Avenue. It will be eight stories high and 90x176 feet in size, reinforced concrete and porous tile partition, glazed brick walls and terra cotta work. Cost, complete, \$500,000.

Ingemann Bros., of Merriam Park, a suburb of St. Paul, were the successful contractors in the bidding on the construction of the new Cleveland high school building in St. Paul, at \$111,480. Buechner & Orth, of St. Paul, are the architects.

P. J. Linhoff, architect, of St. Paul, has prepared plans for a handsome pressed brick and tile residence for J. F. Picha, of St. Paul. It will be 46x34, with all modern conveniences, encaustic tile and cement work, terra cotta trimming, etc.

The W. J. Hoy Construction Company, of St. Paul, was awarded the contract for a four-story reinforced concrete factory building for the Drake Marble and Tile Company, of St. Paul. It will be 117x222 feet. Cost, \$35,000.

The Studebaker Bros. Manufacturing Company will erect a seven-story warehouse in Minneapolis, at Second Avenue South and Sixth Street, on plans by Long, Lamoreaux & Long, architects. It will be of reinforced concrete construction, 50x125 feet, brick walls, with terra cotta trimmings.

G. H. Carsley, the St. Paul architect, has prepared plans for a clubhouse for the Minnesota Boat Club, to be erected on the river, of reinforced concrete construction. Cost, \$25,000.

## KANSAS CITY AND THE SOUTHWEST.

KANSAS CITY, MO., Sept. 18.—The building permits in both this city and Kansas City, Kan., show an increase for last August over the same month of last year of about 18 per cent, the total for this city being \$1,136,000, while the total for Kansas City, Kan., was \$151,978. There is every indication that there will be a nice percentage of increase shown right along after this, as things are turning up in Kansas City which indicate a very rapid growth for a considerable term of years. The contractors are already busy and have contracts to keep them busy well up into the winter, and say they are only handicapped by lack of material and lack of skilled workmen. The supply people in the various lines—sand, lime, cement, lumber, etc.—say that there is no trouble about getting all the material they need, but they can hardly find teams enough to make the delivery. The scarcity of teams in this city must be very pronounced, for the complaint of the shortage comes from every direction. Some building supply men state that they have been compelled to turn down a good deal of city business on account of it, and they are giving more attention to the demand from outside sources, where carloads of material can be shipped direct and no delivery is necessary to the job.

The manager of the Kansas City Hydraulic Pressed Brick Company, Mr. Reed, saw the handwriting on the wall early this year, and when he opened up all their plants he also added some thirty teams to their own force, and has been able to make reasonably prompt delivery right along. This has brought the company a large amount of business, and its product has been cleaned up steadily.

The Lyle Brick Company, on the other hand, which is operating two plants, has been depending upon hiring delivery, and has considered shutting down several times because there could not be teams enough secured to empty their kilns fast enough.

The union depot question is settled at last, as the people voted the franchise September 9, and work is to begin within thirty days and be pushed right along. This not only means the erection of a depot building to cost several million dollars, and for which Jarvis Hunt, of Chicago, is architect, but also the building of a large number of viaducts, which will require a vast amount of cement, as these viaducts will probably be made of concrete.

Then, outside of the big building operations of the railroads, there will be a world of building; in fact, announcements of new buildings are already being made, the work on which would not have been started unless this depot question had been settled as it was. As an instance, the Western Sash and Door Company, which has been occupying a site which will be used by the railroads for this new depot, will at once begin the construction of a plant to cost about \$750,000, and the owners of that company will also at once begin the erection of a ten-story office building on the corner of Tenth and Walnut, to be occupied on the first floor by the National Bank of the Republic, in which they are also deeply interested. These are only straws to show what a wide effect the settling of this depot question is going to have on the city. It not only means the building up of business houses between the present retail part of the city and the depot, thus extending the main business part of the city greatly, and also the building of thousands of new homes, but it means the building up of large manufacturing districts in the outlying sections, where railroad facilities are good. These sections have been handicapped in the past by a lack of shipping facilities, as all local freight must be hauled miles to the receiving depots, and only carload business could be handled from the plants. The new franchise provides that the railroads must maintain a number of union freight receiving depots, to take in the local freight, and thus do away with the long hauls to the individual receiving depots of the various roads. This will make the Blue Valley, clear east of the city, just as near to first-class shipping facilities as are the factories now located in the West Bottoms, where the freight depots are all located, and which are a good five miles away from the Blue Valley, and make the handling of small shipments from factories located there almost an impossibility at this time.

Cement manufacturers are reporting a big increase in the demand for their product, not only in a local way, but from all sections of the country, and their claims are borne out by the advances made in the price during the month, for cement is now selling at the plants at from 20c to 30c per barrel more than it was a month ago, and the indications appear to be a good deal better for further raises than for any decline; in fact, the cut prices of the past have been a severe lesson to some of the plants, and they have had an opportunity to find out just how cheap they could make cement, and then face a loss on sales made. The chances are that they will now feel like making a profit on their production for a while, to recuperate from past losses. While there is a feeling in the trade

that there may possibly be a little further advance, there is also a feeling that we are not to have any more prices of \$1.50 per barrel for at least a good while.

Lime prices continue to be steady, and the demand is just as steady as the prices. The fluctuations in the price of cement seems to have had but little effect on the lime business.

Brick are more plentiful in this market than earlier in the season, and there is little prospect of any further advances in this direction, unless the cold weather next winter causes such a shortage in the production of gas in the Kansas gas fields, and at the same time such a demand for it from sources which pay better than brick plants. In case a few of the best producing brick plants are compelled to shut down in the cold weather, such, for instance, as those at Cherryvale, there will be shortage enough made in this market, with the building already in sight, to probably boost prices a little.

The Lumbermen's Portland Cement Company reports that it will be making brick in its brick plant early in October, as the plant is ready for operation as soon as the first of their battery of three big gas engines is in place, and this engine is now shipped. The plant is also reported to be far enough along so they will be making cement before the first of the year; they hope in November. Their capacity will be 3,000 barrels per day, and the plant has been erected in the most solid manner, on deep concrete foundations. They also have quite a little town built at Carlyle, which is five miles north of Paola, and where the plant is located, to take care of their employees, as the town was not big enough at the start to furnish accommodations for so many people, and they were compelled to take up this building feature early in the game. They build whatever kind of a house each employee wants to rent. The ground where this plant is located lies so the shale beds are drained by natural drainage, without the use of a pump, and the rock quarry will have a 25-foot face and also has a natural drainage. A steam shovel will be used to dig the shale for both the brick plant and the cement plant, and one shovel will be able to take care of all the digging, without any extra help. The stock of this company is largely held by retail lumbermen of this section of the country, and they will, of course, be customers of the company, holding the agency in their respective towns, and as the shale is of a quality to produce a fine face brick, as well as a good paver, it is intended, when the demand calls for such shipments, to ship mixed cars of brick and cement. This company must be reckoned with for its share of the cement business in the future, for the fact that it will have a long list of customers who are stockholders means a steady demand in the regular way, and leaves the company to catch the big orders on the outside of that demand. This company was organized just prior to the "panic," and has been going right along with its work all this time, getting in the money from the stockholders as fast as it was needed for the various expenditures, and the management is rather proud of the feat of building so extensive a plant when so many business houses were curtailing expenses and even shutting down for lack of money to operate with. It showed the faith the retail lumbermen of this section had, not only in cement, but in the management of this particular company.

There has been trouble in the camp of the Bonner Portland Cement Company of late, and the plant was shut down for a time the last of August and early in September, word coming from Bonner Springs, Kan., where the plant is located, to the effect that the men quit because they had not been paid of late, in spite of the fact that the company was selling cement regularly. Mr. Caffery, the president of the company, denied this, but later developments indicate that the statement of the men was correct. At any rate, there has been a change, G. G. Gheen, of the G. G. Gheen Leaf Tobacco Company, of this city, who was already a heavy stockholder, as was his brother, the president of the Bonner Portland Cement Company during the stock selling period of its history, has purchased the stock of W. W. Caffery and has succeeded him as president of the company. Charles Knabb, the vice-president of the company, resigned and was succeeded by the election of Walter B. Richards, and J. D. Waters, treasurer of the company, has been succeeded by C. C. McCarthy. Mr. Gheen is a successful business man, and while he is not an expert in cement, he will give the company a thorough business administration.

Charles Chandler, state architect for Kansas, is figuring on the use of concrete in the construction of a fence and grandstand for the athletic park at the State Normal School in Emporia, Kan.

B. E. Allison, sales manager for the United Kansas Portland Cement Company, has just returned from a short vacation trip to Chicago.

O. J. Hill, vice-president of the Ash Grove Lime and Portland Cement Company, has gone to Europe for a pleasure trip, which will last for several months.

Frank E. Snow, a concrete contractor, while wait-

ing for a car a few days ago, noticed three men coming up the street, two of them supporting the other, who was evidently intoxicated. When they approached Mr. Snow this third man displayed a revolver and fired one shot, striking Mr. Snow in the right leg, but not breaking any bones.

The Ford Motor Company is soon to let the contract for its building at Eleventh Street and Winchester Avenue, which is to be made of concrete 75'x420', and one story high at present, but the walls are to be built strong enough to support two additional stories.

Clifton B. Sloan, architect, is taking bids for the construction of the Midland Arcade Building, to be built of reinforced concrete, 100'x120', three stories and basement, to contain nine storerooms on the first floor and a hotel above. It will be faced with brick and is expected to cost about \$50,000.

Plans are being prepared by Edwards & Sunderland for a seven-story and basement reinforced concrete building for Sarah M. Sheidley, to be 24'x142', and located at 915 Broadway.

Work has been started on the new plant of the Uncle Sam Oil Company, in Kansas City, Kan. It will be of steel and reinforced concrete construction. The first building to be erected will be a barrel house, with loading dock, to be 60'x100' and two stories high.

Within the next sixty days the Metropolitan Street Railway Company, of Oklahoma City, will begin what is to be the largest structure in Oklahoma. It is to be a terminal station, to cost between \$1,250,000 and \$1,500,000. It will be ten stories in height and 214'x160' in size, and will be of steel and concrete construction.

William Krames, of 4119 Windsor, has the contract for the concrete work and fireproofing for the J. C. Gates Building, Tenth and Grand. The brick contract was let to Frank Shinnick, the terra cotta contract to the Northwestern Terra Cotta Company.

Rudolph Markgraf is preparing plans for a factory and warehouse for the Elberon Harness Company, to be made of reinforced concrete and to be five stories and a basement.

The Swenson Construction Company has the general contract for the construction of a three-story reinforced concrete addition to the Kansas City Veterinary College.

Plans have been prepared for a five-story steel and concrete building to be erected by D. O. Smart, Jr., at Eleventh and McGee Streets.

Word comes from Arkansas City, Kan., that the contract for preparing the plans for the plant of the Arkansas City Portland Cement Company have been let to the Osborne Engineering Company.

The Gatlin Manufacturing Company has plans in course of preparation for a seven-story factory building at 817-21 Broadway, to be of concrete construction and faced with pressed brick and Carthage stone.

### CEDAR RADIDS.

CEDAR RAPIDS, IOWA, Sept. 16.—F. J. Stodola, First Street and Avenue F West, has just installed a large steam traction concrete mixer, made by the Koehring Manufacturing Company, of Milwaukee, Wis. He is a large contractor in sidewalk and allied concrete work and has added to the new mixer some new ideas and devices of his own, which promise to give him some added conveniences in his operations.

Work on the new Sixteenth Avenue bridge, which is of reinforced concrete, is progressing rapidly, with about 125 men at work. The Union Engineering Company, of Chicago, who have the contract, hope to have it near completion before extreme cold weather sets in.

There are six 80' spans, with a pier setting of 7' 6" between each. The abutment on the north end and all the piers but one are in and the excavation complete, or nearly so, for the south abutment. The pier just being completed is in the main channel and is anchored to the country rock at a depth of twenty feet below water line. There will be over 320 tons of steel used in reinforcing. The concrete will be 18" thick at top and 3' 11" at bases of arches. The false work and reinforcing are in on one-half the arches and the material and mixers, etc., on the ground ready to make rapid progress with the concrete work.

Larimer & Schaffer, large sand dealers, with a steamboat and two barges and claw shell crane, are having a busy time of it. Bob Larimer says: "We make the pile as big as we can and still it is not near big enough to let all the teams in in the morning. By actual count one morning we saw over eighty teams loading and waiting." The boys are now talking of building a plaster mill and a sand brick plant, but so far it is not assured that they will go ahead.

The construction of new boats for the sand operation of the Kings Crown Plaster Company is going on at a rapid rate. One barge is nearly completed and the hull for the steamer is also about ready for the deck and machinery.

The sand pumping plant on the Rock Island Railroad is steadily loading five to six cars a day.

### NASHVILLE AND THE SOUTHEAST.

NASHVILLE, TENN., Sept. 17.—The Nashville building supply interests are having a good season and continue to branch out through surrounding territory and even to adjacent states for business. Contracts are coming in from territory far removed, in many instances. The Tennessee State Fair will be held next week and there will be exhibits of many articles at Exhibition Hall bearing on Tennessee building supply interests. Then, too, the good roads convention, called by Governor Patterson, will be held during the fair. Prominent on the program will be the three commissioners just named by the governor for Tennessee's first State Roadway Commission, created under the Grissam bill by act of the last legislature.

Architects here give favorable reports. Contractors are busy. The price market seems somewhat demoralized on cements and some supplies, but on the whole the trade situation is good.

The Foy-Proctor Company, 810-12 Stahlmann Building, along the line of engineering work have planned several important jobs recently. In their work was the approaches and piers of the Jefferson Street bridge over the Cumberland River. They have lately built a reinforced concrete terrace and a 30-foot concrete porch. They also did the concrete work in the Union Bank and Trust Company.

Polk & Kannady, plaster contractors, have been doing the plastering work on the addition to Belmont College.

At the annual meeting of the stockholders of the Nashville Spoke and Handle Company, held here a few days ago, it was announced that the company has under consideration the erection of a five-story concrete warehouse. Charles D. Gates, of Louisville, Ky., is president, and R. L. Reuther is treasurer and general manager.

The Nashville Concrete Company has completed the excavating and concrete work under five railway tracks at Columbia, Tenn.

Curtis & LeSuer are building a private driveway on the premises of D. A. Puryear, on the Hillsboro Road. They are also at work on a road for Walter Stokes. This firm has contracts for building streets and sewers in different parts of the city.

The Nashville Roofing and Paving Company has finished the foundation work on the new building of the Nashville Gas Company and is now constructing two concrete floors in the fireproof building now under erection for this company. In addition to this work they secured from the Nashville Laundry Company a contract for a water tank 17'x65'x20'.

The Foster-Creighton-Gould Company report the trade status as satisfactory. They are doing the concrete work on the Y. M. C. A. and Y. W. C. A. buildings. These buildings had been originally planned by the architects to use brick, but concrete was substituted. This firm, at its quarries at Rockwood, Ala., is getting out about 1,500 yards of crushed stone daily. They own the largest limestone plant in the South, the quarries covering about 600 acres, and there are 1,700 acres in the property, all told. Recently this firm has taken contracts for five bridges (steel and concrete) on the line of the North Carolina & St. Louis Railroad, and finished a concrete job in the state of South Carolina, at Ferguson, for the Santee Lumber Company.

Bright Brothers, 602½ Church Street, is a new construction and engineering firm here, but have considerable work in hand. They have a contract for concrete paving at Gallatin, Tenn., and considerable cement coping work in the cemetery at the same place.

W. M. Leftwich & Company, of this city, have been awarded the contract to build an extension to the sewer system through South and West Decatur. The contract is for \$19,403.20.

J. A. Webb has received the contract here for the construction of the 80-foot boulevard that will connect Centennial Park with the Hill Crest addition. Mr. Webb's bid was \$9,044.56. There were a number of other bidders. Upon a 33-inch circular brick drain, J. J. Barnesfield received the contract. Upon a drain pipe under Wedgewood Avenue, J. J. Barnesfield received the contract.

The concrete construction on the Cummins Station addition is progressing rapidly under the supervision of William McDonald, of the firm of Lightman & McDonald.

Wilson, Ingram & Company are having a good trade on rock crushers, having in the past month sold a number of them in surrounding country. The good roads impetus is having something to do with this. This firm also reports a good demand for concrete reinforcement steel. An Aurora rock crusher outfit has just been shipped by the company to Smith county.

The Tennessee good roads convention, called by Governor M. R. Patterson, will convene on Tuesday, the 21st, for a three-day session. Experts in road building from the national government's department will participate in the program, including, among other features, an actual demonstration in road building. Many road machinery houses will be represented

with exhibits. The last legislature passed what is known as the Grissam bill, creating a commission of three on state highways to investigate conditions in the state, with reference to road possibilities, the methods of the federal government in this regard, and to report to the next legislature, and associating itself with the Tennessee Department of Agriculture and laying said report before the prison commissioners of the state, it being thought that convict labor will be utilized in part on this road scheme before long. On the eve of this convention, Governor Patterson has selected as members for the first term of two years, Major E. C. Lewis, a civil engineer, man of affairs and member of the Nashville Park Commission from middle Tennessee; W. J. Oliver, of Knoxville, the eminent railroad contractor and the man who put in the lowest bid on the Panama Canal, and who has built more railway roadways in the South than any other man, as the member from eastern Tennessee, and H. W. Brennen, of Memphis, an engineer and authority on road work, who has for a long time favored a highway from Bristol, Tenn.-Va., to Memphis, as the member from western Tennessee.

### CHATTANOOGA.

CHATTANOOGA, TENN., Sept. 18.—Favorable conditions prevail at Chattanooga in the building trade, and neighboring East Tennessee towns also report good business.

T. T. Wilson, 1003 Market Street, building supply operators, said that cement prices were low, but trade was good. This firm has been using hard wall plaster to a considerable extent in its trade. The firm furnished some of the material for the city hall, Presbyterian and Baptist churches, lately under construction here.

Sloan & Company, building supply people just west of the Read House, think the situation has not been so active, but that the outlook is good. This firm won out in its contention with the public authorities to give an open field for cements rather than confine it to one brand on public work. The matter was carried into court, but afterwards compromised by this allowance.

The Chickamauga Quarry and Construction Company is furnishing the material and doing the concrete work for the Chattanooga Improvement Company's Eden Park. There is considerable paving work.

The Dixie Portland Cement Company, James Building, report that August was the best month of the year in point of sales. Among the large contracts in the local territory they have filled was that for the transformer poles and transformer house supplies for the Chattanooga lock and dam, at Hales' Point. H. C. Koeh, general sales manager, has been spending a few weeks in the North.

Mr. Kenney, of the Gager Lime Company, James Building, states that they are enjoying a fine business and are preparing to install a special piece of steel work, unlike anything in the South, except that used by one of the big iron furnaces at Ensley, Ala., that will give additional facilities at the Sherwood Lime Works. He mentions that they are getting on the market a special lime product for soil fertilizing and treatment that is receiving merited recognition in the blue grass districts and in the treatment of certain soils.

C. A. Jenung, secretary of the Chattanooga Builders' Supply Company, now in business here about six months, states that they are trying to live up to the "departure" of handling everything in the builders' supply line that might be needed in Chattanooga, and that if, perchance, they don't have it on hand, to get it. They carry lime, cement, slate and many classes of brick. Porter Warner is president of this company. Terra Cotta, beech doors, American enameled brick, Ladd's hydraulic lime and many other articles are carried.

Barnes Brothers Company, on Ninth Street, report a very good trade from residence builders, on supplies. They carry an extensive line of cements and other articles.

J. L. Haynes, at Decherd, Tenn., states to ROCK PRODUCTS representative that concrete block work is proving popular in that town. Mr. Haynes, who is a furniture man, as well as a builders' supply dealer, built his furniture store of concrete blocks, with floor and roof of concrete. The storm last spring in Decherd nearly demolished the brick depot, the Christian Church and carried off every chimney stack in the business part of Decherd and blew to the ground many buildings adjacent to his store, which, however, stood like the rock of Gibraltar.

Martin Marrugg, at Tracy City, Tenn., is doing considerable in cement block work. He has roofed Fairmont College there and built a school of concrete.

The Unicoi Construction Company, of Unicoi County, Tenn., has been organized to do concrete work. The capital stock is \$10,000 and the incorporators are: W. B. Robertson, Thomas H. Mason, H. N. Helms, W. M. Peyton and P. B. Smith.



## TOLEDO AND NORTHERN OHIO.

TOLEDO, OHIO, Sept. 18.—Looking backward over the past month, building operations in Toledo and northwestern Ohio have not been very encouraging, and the same thing may be said of the outlook for this fall. While a few of the architects located in this territory say that they have a great deal of work and will be busy, the majority do not have much before them and several are not blessed with a single job on their boards that is worthy of mention. Vacation time is about over and business generally is starting out for another year, but if there is to be anything like activity this fall in the building lines a start must be made with haste. Strange as it may seem, not a single large structure has been announced for this fall, excepting such as have been in the hands of the architects for some weeks, but despite this fact a more hopeful sign is everywhere prevalent, and architects and contractors anticipate better things than they have had.

The building statistics for August, as compiled by the city building inspection department, show a slight decrease over last year, the negative per cent being due to the cost of structures, for not in many months have the permits issued covered so many small buildings and repair jobs as during the past thirty days.

Of the buildings started since our last letter, the most important is a series of factory buildings which are to be erected about a mile and a half west of Toledo, along the Lake Shore Railroad, by the National Cressoning Company, of Chicago. The contract for these buildings has been awarded to the construction department of the Toledo-Massillon Bridge Company, which is in charge of Devore & McGormely, with offices in the Ohio Building. Three buildings are to be erected under the present contract. Each is to be of brick and steel construction, with concrete foundations, the brick and concrete work having been sublet to Frank Gorman, of this city.

Preliminary work on the new high schools for the Board of Education has been hanging fire and while specifications are now being written, it will probably be well toward the middle of October before the Board of Education will be ready for bids. These two buildings will cost \$500,000 and are intended to include the latest ideas in high school architecture and are the result of composite ideas gleaned from visiting the modern high schools in a score or more cities.

After a fight covering four years, the city of Toledo has at last cleared away things so as to make it possible to award contracts for the new Cherry Street bridge. At its meeting last week the city council voted to issue another \$300,000 in bonds, making about \$800,000 available for the purpose, and unless some other complications arise contracts can now be let and the work started. As the thing now stands, a straight bridge will be erected, the main fight having been over whether or not the west end should have one or two approaches, the two-approach idea being popularly known as the "U-bridge." The final stand was by no means unanimous, but thus far the whipped minority in favor of a double approach has shown no disposition to renew the fight. As stated before, the structure is to be of concrete, excepting the swing.

William G. Clark, supervising engineer of the new municipal filtration plant, has just announced that the work will be so far completed by November 1 as to allow the water to be turned into the city mains from the filtration beds. The work should have been completed several months ago, but numerous vexing delays were occasioned by striking unforeseen difficulties in laying the conduits. Even when finished the engineers and municipal officials do not guarantee clear water until sufficient time has elapsed to allow the sediment in the pipes to be washed out.

Paving circles are lively and several of the local pavers are not in position to handle more work. A short stretch on Detroit Avenue, which extends beyond the city limits, was awarded to James Sheehan by the county commissioners, this being the first of what might be called country roads to be paved with brick. Mr. Sheehan is also completing several contracts for macadamizing country roads in Lucas county.

Road work in northwestern Ohio has had an impetus this season never before equaled. Fulton county has spent thousands of dollars in this way. Seneca, Wood, Henry, Erie, Sandusky and Williams counties have also laid miles of stone roads and plans for next season outline a continuation of the present policy. At the present rate it will not be long before all the important roads of northwestern Ohio will be macadamized.

The contract for paving several streets at Fayette, Ohio, has been awarded to M. J. O'Sullivan, of this city. When bids were first opened several weeks ago, only two bids were received on brick and one on asphalt blocks. Bids were readvertised and the same two bidders were the only ones bidding, their figures being almost identical with the former bids. Owing to the appropriation for the work all kinds of paving

brick were out of reach, with the exception of two or three makes which had been quoted at a figure low enough to allow the bidders to get their bids under the appropriation.

The Weiler-Berger Concrete Construction Company has purchased two acres along the Wheeling Belt, in East Toledo, near East Broadway, and will immediately begin the construction of a plant for the manufacture of concrete blocks, sewer and drain tile. The company has been organized with a capital of \$10,000, all of which has been paid in, and a force of thirty men will be employed from the start. A side switch will be laid, which will increase the facilities for receiving material and shipping the finished product, as the company expects to do considerable business by rail. A traveling force will be maintained and an effort will be made to increase the use of concrete drain tile as well as sewer tile, the former especially in the rural districts.

Anent concrete blocks, it might be said that concrete block manufacturers in Toledo have enjoyed a brisk season, as they have had almost a monopoly on small foundation work, except where the finer grades of pressed brick have been used. In fact, some of the building supply companies have been forced to give this department special attention, whereas it was only begun some years ago in a small way to accommodate customers who did all their buying of them. Many real estate men who build for sale are resorting to concrete blocks almost exclusively and are using this product not only for facing foundation walls above the grade line, but are laying the entire foundation walls of it, as well as the partitions in the basement. Several builders in this manner have discontinued the manufacture of blocks on their own account and are now buying their blocks delivered instead. As one builder said: "I find that I can buy my blocks cheaper than I can make them, and am not obliged to be on the ground all the time to watch the workmen to see that they do not waste half their time when someone is not around."

Henry Miller, general sales agent for the Darlington Brick and Mining Company, visited Toledo friends several days about the middle of the month.

Charles Rahm, for several years city salesman for the Toledo Builders' Supply Company, has accepted a similar position with the Phillip Carey Roofing Company.

The National Mausoleum Company, with main offices at Shelby, Ohio, is creating quite a stir in building circles by the number of mausoleums it is erecting throughout the country. Upwards of thirty are now under construction in Ohio, and to furnish the additional capital to work on so large a scale the company has been reorganized with a capital stock of over a million dollars. Building operations are under the direction of W. J. Cheson, although many of the contracts are sublet to local parties.

The local building of this company, which is now nearing completion, will be a specimen of what the company is doing, and if the specifications used on the local building are followed, the buildings will stand, as intended, till natural decay eradicates them. The Toledo structure is of solid concrete, reinforced nearly twice as strong as held to be necessary by most engineers, and the formula followed in mixing the concrete is that furnished and used by the government in its work. The building is faced with Tiffany enameled brick Norman stretchers and the roof is of Detroit tile, tied on with copper wire to a steel roof frame. Not an inch of wood is used and all ornamentations are made out of marble dust.

The entire interior of the building is lined with marble and the crypts are of solid concrete, ventilated by a specially designed ventilating system. Work on the Toledo structure was necessarily slow, as many problems, hitherto unsolved, were tried out, but in the future much faster work can be carried on. Other mausoleums to be erected in this immediate vicinity are at Morenci and Dundee, Mich., Delta, Wauseon, Troy and Piqua, Ohio. Many of those in smaller towns are not finished on so elaborate a scale, but are faced with solid concrete, instead of enameled brick.

Critics against the use of concrete for building baseball field enclosures are having their eyes opened by the manner in which the new fence about the Toledo American Association field is standing. On three sides of the mammoth field the fence is of solid concrete, the supporting posts being of reinforced concrete about twelve feet apart and the intervening space being of concrete applied to expanded metal lath. Not only has the fence given first-class satisfaction, but cracks and other signs of decay are missing after several months of use. The grandstand and bleachers are of concrete, steel and wood.

Noticing the success attending this field, the directors of the Lucas County Fair Association are planning to add considerably to its ground space and to enclose the new portion with a concrete fence and to erect all the new buildings of reinforced concrete. These new buildings are to be completed in time for the annual fair next summer.

The Toledo Builders' Exchange has made several changes in its quarters whereby leasing tenants will be afforded more office space. S. J. Pickett, president of the exchange, was accorded the honor of commanding the Cherry Pickers, the crack marching organization of the Toledo lodge of Elks, in the industrial parade of the King Wamba festival.

Architect George S. Mills, designer of the floats in the Chamber of Commerce parade of the King Wamba festival, is being flooded with commendations for his work. In all fifteen floats were presented, each illustrating some nursery rhyme, one of the finest being "Old King Cole."

James Bentley, of the firm of A. Bentley & Sons Co., general contractors, is out again after several months of severe sickness.

## BIRMINGHAM.

BIRMINGHAM, ALA., Sept. 17.—A great wave of prosperity has struck Birmingham, and is carrying architects, contractors and supply dealers to success and wealth. Never since the bad year of 1907 has there been such business in these lines as there is now. Contractors have more work than they can do and supply dealers are overcrowded with orders, evidence of the truth of this statement being found in the great amount of building being done in this city and vicinity.

W. W. Sneath, manager of the Carolina Portland Cement Company, said: "We are very much encouraged at the outlook, for the present business does not even bear comparison with the business of the corresponding period of last year. We have had several large contracts this month, among them being agreements for a large amount of cement for the Talladega Coal and Iron Company, the Tennessee Coal and Iron Company and the Gadsden plant of the Southern Steel Company." This firm handles Standard Portland cement, manufactured at Leeds, Ala., in one of the largest plants of the South, also the products of the Keystone Lime Company and other standard goods.

The Birmingham Building and Improvement Company has about completed the new three-story annex of the South Highland School. The building is of brick and costs \$36,000.

The south side of the city is at present seeing the installation of nearly five miles of sewer at a cost of about \$250,000. The sewer work has been divided into eight sections, and distributed to three contracting firms. Five sections have been secured by Donelson & Watkins on a \$130,000 contract. This division is an eight-foot brick sewer, and extends from Seventeenth Street and Avenue C to Twenty-fourth Street and Avenue E. This firm is using in its work a locomotive crane, an orange peel bucket and skips for loading rocks.

Two sections from Avenue A and Thirteenth Street to Avenue C and Seventeenth Street, about 3,000 feet, have been secured by J. A. Milner on a \$50,000 contract. The sewer is eight feet wide and twelve feet deep, and will be of brick and concrete.

The last section, extending from Avenue F and Twenty-fourth Street to Twenty-fifth to Ave G to Twenty-sixth Street up to Pine Avenue has been secured by McPoland & O'Guire on a \$20,000 contract. Twenty-four and fifteen-inch pipe are used.

The Jefferson Brick Supply Company reports business excellent. They are furnishing material for improvements on four city schools, and also to the different contractors engaged in sewer work, besides having running contracts with the Tennessee Coal and Iron Company and other corporations.

The Birmingham Supply Company, whose specialty is Vulcanite roofing, is doing a rushing business. They have just finished roofing the plant of the Central Foundry Company, Anniston, Ala., with 600 and the Bijou Theater of this city with 200 squares.

The Birmingham Sand and Improvement Company has acquired the contract for the plastering of the Ullman School. They have two sand pits near this city and one in Howland, Ga., all of which are busy.

The General Mosaic Tile Company, of 2119 First Avenue, has filed contracts with Stewart & Company, of Houston, Tex., and the Jefferson Construction Company, of New Orleans. They have also just completed the tiling of the new courthouse in Hattiesburg, Miss.

J. P. Baldwin, the well-known retail dealer in supplies, says: "Birmingham is improving day by day, and pretty soon will forget we ever had a panic in 1907." Mr. Baldwin handles Old Dominion, Magnolia and other well known brands of cement.

The Brownell Mantel and Tile Company has contracts for the tiling of the Phoenix Club, the Model Cafe, Warner's Ice Cream Parlor, Reliance Hotel and a great number of residences.

C. M. Burkhalter, one of the leading contractors of this city, says: "I am very busy, in fact I do not know of any time during which I've had more work to do than at present." He has secured the work of



constructing a concrete sewer in Ensley on a \$15,000 contract, and has also done similar work in North Birmingham, East Lake, Bessemer and this city.

The Kirkpatrick Sand and Cement Company reports business to be better at present than any time within three years. Among their big contracts the ones calling for the supplying of all material for the construction of the sixteen-story Empire, the seven-story Chamber of Commerce and the four-story Age-Herald Building are the most prominent.

The Southern Bithulitic Company is doing a great amount of work in New Orleans, La.; Hot Springs, Ark.; Memphis, Tenn., and in this city, on Twenty-sixth Street, from First to Seventh Avenue.

The rock crushing plant of the Birmingham Realty Company, at Dolomite, is running full time. They have big contracts with local and outside contractors.

It has been announced that Liveman, Joseph & Loeb will erect a modern six-story annex to their already large department store. The new building will have a front of 100 feet on Third Avenue and will run back to an alley at a distance of 140 feet, but, combined with the old building, will run up the frontage to 300 feet. It is proposed to make the new structure strictly fireproof, and to supply it with every modern appliance. The probable cost will be about \$200,000.

Charles A. Darwin Company's rock crushing plant has ceased work for repairs, but will soon resume operation.

Mr. Dun, of the Dun & Lallande Contracting Company, says, in his characteristic manner, "Business is just corking good." This firm has made contracts for the laying of sewers in Vicksburg, Miss., and Birmingham and suburbs, besides doing general street improvement work on Warsaw Street, of this city.

## CHICAGO.

CHICAGO, ILL., Sept. 20.—The local Portland cement manufacturers report that trade has been active and sales constant during the last month. Prices are getting firmer, and an increase may be expected at any moment. Very few orders are accepted at the present figures for future delivery, and large orders are not sought. This condition speaks volumes. When it is remembered that the railroads have virtually used only a small fraction of their usual quota, that the city railway has almost two hundred miles of track reconstruction to make and that the use of cement in country road building is as yet in its infancy, the future looks bright to the manufacturers. Crushed stone men, dealers in sand and gravel and even the machinery men have felt the influence of the general revival of business. With practically all the labor troubles adjusted, it would appear that the fall business would be a record-breaker, and go far toward making the entire year a normal one.

George W. De Smet reports business as very good, especially in the waterproofing business. They have several large jobs on hand. They say the outlook is promising for a continuance of good business. They report an increasing demand for Berkshire Snow White Portland Cement.

J. P. Beck, manager of the publicity bureau of the Universal Portland Cement Company, has the following comments to make on the situation:

"The demand for cement at this time is exceedingly active. This is particularly true in the country districts. Orders for carloads from the dealers in the small towns are more numerous than ever before. Business at the present season of the year is always brisk, and this year is no exception. Prices have been on the increase for some time, and every indication points to a continued advance. Our shipping capacity is severely taxed, but we are well taking care of orders for rush shipments. Shipments are exceeding considerably a half million barrels each month. The production is up to the fullest possible capacity, which will make about six million barrels for the year."

J. U. C. McDaniel, of the Chicago Portland Cement Company, in speaking of the situation, said that the demand was heavier than usual, especially the local demand. Although they are busy, they are still in good shape to handle all orders promptly.

The Wisconsin Lime and Cement Company, as usual, are rushed with orders. In speaking of the fall outlook they state that never was trade better nor the indications for increased business greater. They state that their sales so far this year in each and every one of the two hundred and odd lines handled by them have increased over last year.

Aquabar, the waterproofing compound that carries a guarantee and a bond, if necessary, with it, that it waterproofs, and for which they are the sole agents for the state of Illinois, is meeting with great success. They say that their sales for this compound are now exceedingly large, and that whenever its merits are investigated orders always result.

The officers of Wisconsin Lime and Cement Company are progressive, up-to-the-minute business men, and well deserve the success they have attained.

Others interviewed expressed themselves as more than pleased with the situation, and report that trade is excellent, that sales this year aggregate more than those of last year, and that the prices obtained are somewhat better.

## MEMPHIS AND THE SOUTHWEST.

MEMPHIS, TENN., Sept. 18.—Work of a construction character promises to be good in Memphis during the next ninety days. The contract has been let for one of the eighteen-story skyscrapers, and while the great Union Depot project has collapsed, a \$2,000,000 depot for the use of about five roads will be built by the Louisville & Nashville Railroad, and the plans have already been prepared.

Price schedules are rather unsatisfactory among the building supply firms in Memphis, but a reasonable amount of business is being done.

A late entreé among construction firms here is the Scott-Smith-White Construction Company, at 1014 Memphis Trust Building, and composed of John Scott & Sons, of St. Louis; C. D. Smith & Company, of Memphis, and Damerson & White, of New Orleans. The individual members have done work clear across the continent and they have now secured the contract for building ninety miles of railroad for the Santa Fe System, opening up a new section of country in southern California.

The Phoenix Cotton Oil Company here is to erect a concrete refinery plant adjacent to its crude oil plant.

James Hutchison will erect for Bauer & Becker a double two-story stone flat of fourteen rooms and slate roof. A. A. Chighizola is architect.

D. Emmons & Company have the contract for erecting the Kress store building on Main Street for Mrs. K. T. Hamilton. J. H. Zeitner, architect, of New York, for the Kress stores, was here at the opening of bids. A retaining wall will have to be put up on the side toward Sherron's store.

W. B. Troy, of Memphis, will be one of the delegates at the Tennessee good roads convention. Mr. Troy is a gravel contractor and has had much experience in road building.

Contractor Downey, of Birmingham, has been at Little Rock conferring relative to the ballasting with gravel of the entire Arkansas division of the Iron Mountain Railroad.

Wright W. Flynn, 50 years of age, a prominent gravel contractor of Memphis, was found dead on Rembert Street one day this week. Physicians attributed his death to heart failure.

Contracts have been let by the park commissioners here for eighteen bridges and culverts in Riverside Park, to be built before next fall. The contracts went to J. A. Omberg, Jr. The work will be of reinforced concrete and will cost \$20,000. The bridges will be covered with rough stone to represent stone bridges.

George Katterjohn, of Paducah, Ky., has been awarded the contract for the concrete work on the Herrin Southern Railroad, a branch of the Burlington being built from Herrin, Ill., to Metropolis, Ill., a distance of fifty-seven miles.

Crump Brothers are having erected in Memphis a warehouse of corrugated iron on a concrete foundation.

W. B. Troy & Company, of Memphis, have been awarded the contract for graveling two miles of street at Lexington, Tenn.

The Murch Brothers Construction Company, of Memphis and St. Louis, have been awarded the contract for the eighteen-story bank and office building of the Central Bank and Trust Company, at Madison and South Second Streets.

The Colorado Gravel Company has been organized at Columbus, Tex. A plant will be operated. R. Strickert is president.

F. O. Engstrom Company, of Los Angeles, have taken a \$33,000 contract for a seven-story concrete building in that city, and a six-story concrete hotel will be constructed there by the Richards-Neustadt Company.

Contracts have been let for the erection of a four-story concrete garage, which will be one of the finest automobile shops in the city. It will cover a lot 67 by 125 feet, and each front will consist of a row of large Corinthian pilasters.

The Aiken Reinforced Concrete Company has been incorporated at Los Angeles, Cal., with a capital stock of \$100,000, by P. W. Weidner, P. A. Lord and F. H. Sears.

The Phillips Contracting Company, of San Bernardino, Cal., has doubled its capital stock and has purchased a rock crushing plant, in which a lot of new machinery is being installed. The company has purchased a No. 6 Ajax gyratory crusher and a set of sand and gravel screens in this city.

A. H. Calking has given up the contract for installing a cement walk and bulkhead along the beach at Long Beach, Cal., and new bids have been called for.

## THE WEST COAST.

SAN FRANCISCO, CAL., Sept. 8.—Building permits in San Francisco last month show a total valuation of \$2,186,064, a slight improvement over the July record. The amount of contracts let in August totals about \$400,000 more than the permits, the contracts being about equally divided between wood and more permanent materials. The improvement is more noticeable in the other Pacific Coast cities, Los Angeles showing a heavy increase, while in Oakland August was one of the busiest months of the year. Portland, Ore., also shows a substantial increase. The outlook for new building work is good, with money fairly plentiful, and if the building plans recently announced are carried out within anything like a reasonable time there will be a decided increase in the amount of concrete work in the next few months.

One of the most remarkable phases of the campaign for concrete is its increasing usefulness in the agricultural districts of California, both on the farm itself and in the large engineering works necessary for the more complete development of the farming country. This is especially noticeable in the central valleys of the state. For the last two years the Southern Pacific Railroad has given a special suburban service in that district, bringing the rural population into closer contact with the larger centers and introducing a spirit of progress which can be seen throughout the entire region. The improved facilities for communication and for marketing the produce have led to a rapid growth of population, and old and new residents alike are now putting in irrigation systems, concrete silos, culverts and many other improvements. The increased population has also made it necessary to renew the campaign for good roads and bridges.

The market for Portland cement in San Francisco is hardly as active as last month, though the demand is still very satisfactory, and there is no prospect of serious overproduction. Requirements for building purposes have hardly been as large as anticipated, while the increased capacity and the presence of a comparatively new firm in the field makes competition rather keen. There is also somewhat more competition from foreign cement in the northern cities, owing to the arrival of a large tonnage on the fall grain fleet. One vessel recently brought 9,000 barrels from Antwerp to Tacoma, Wash., and another 1,200 tons to Portland, Ore., while several other cargoes are on the way.

The Standard Portland Cement Company, however, is still shipping cement north in about as large quantities as before, and representatives of the company state that there is very little movement of the foreign article in the local market. Some brands are still asked for in connection with finishing sidewalks and such purposes, but the local product, owing to recent improvements in the process of manufacture, can now compete with them for all purposes. Some of the finest sidewalks in the city, notably that in front of the Palace Hotel, have been made and finished with Standard cement, and this work is in strong contrast to many of the jobs in which foreign cement was used, some of which already show signs of wearing out, though built within the last three years.

Lime is in about the average demand, and the price is steadily held at \$1.50 per barrel.

Glann & Houghton have taken a large contract for five concrete bridges in the new suburb of Ross, Cal.

The Marin Rock Company, A. L. Brizzolari, president, has opened a new rock quarry at San Anselmo, Cal., and is installing a lot of new machinery.

The city of San Diego, Cal., is compiling a new set of building laws. F. A. Kinney, of that city, has petitioned for an amendment in the proposed ordinance, permitting the use of a cement block patented by him, and designed to be laid without mortar.

J. J. Peveler and H. Goehring are installing a concrete block plant at Santa Monica, Cal. They have already put out considerable of the material, which has been used in a number of buildings in that city.

A new builders' Exchange has been organized at Petaluma, Cal., the incorporators being H. S. McCargar, N. B. Ingerson, R. A. Haskin, C. F. Turner and E. L. Young.

The Esterly Construction Company has taken a contract for concrete, cement and plaster work on the new Pacific Union Club Building, for \$61,000.

The Southern Pacific Railroad, which is converting its suburban lines from steam to electricity, is preparing to erect a number of new reinforced concrete stations.

One of the most notable pieces of concrete architecture in San Francisco, commemorating in permanent form the designs of early days, will be the new Mission Dolores Church, to replace for actual services the old mission of early Spanish days. Concrete is admirably adapted to the early California style of architecture, which was carried out in early days in the native adobe mud. While much larger, the new building will be on similar lines to the old one, and will cost \$150,000. The old adobe building will be allowed to stand.



ALL THAT THE NAME IMPLIES

**SECURITY**

PORTLAND CEMENT.

"BETTER THAN OUR SPECIFICATIONS REQUIRE"  
B. T. FENDALL, City Eng., Baltimore.

"OUR TEST IS QUITE SEVERE. CONGRATULATE  
YOU ON THE EXCELLENT SHOWING MADE"  
C. W. HENDRICK, Sewerage Com., Baltimore.



WORKS: SECURITY, MD.  
(NEAR HAGERSTOWN)

**MARYLAND PORTLAND CEMENT CO.**

Main Offices, 8th Floor, Equitable Bldg.

BALTIMORE, MD.

**"OK" QUALITY**

"OK" Cement is ground 85% fine on the 200 mesh sieve—and contains 10% or 38 lbs. more actual cement than the coarser ground cements—OK Cement will carry one third more sand than other brands—It is the highest possible grade and guaranteed in every particular and to meet all requirements of the U. S. Army and American Society for Testing Materials.

**Oklahoma Portland Cement Co.**

Ada, Oklahoma

**Ottawa White Sand**

FOR { Ornamental Concrete Stone  
Cement Block Facing  
Hard Plaster Finishing  
Exterior Plastering  
Keene's Cement  
Laboratory and Testing  
Stone and Marble Sawing

**IS THE STANDARD**

99.87% PURE SILICA

LARGEST PLANT IN THE UNITED STATES

**United States Silica Co.**

American Trust Bldg., CHICAGO, ILL.



The Production of  
**UNIVERSAL**  
PORTLAND CEMENT

Year.	Output of Universal Portland Cement-bbls.	Percentage of total American output of Portland Cement.
1900	32,000	0.38%
1901	164,000	1.29%
1902	319,000	1.85%
1903	463,000	2.08%
1904	473,000	1.78%
1905	1,735,000	4.92%
1906	2,076,000	4.55%
1907	2,129,000	4.36%
1908	4,535,000	8.89%
1909	*6,000,000	

\*Estimated.

Additional capacity now under construction will give us an output of 8,000,000 barrels for 1910.

**UNIVERSAL**  
Portland Cement Company  
CHICAGO - - PITTSBURG

**The BATES VALVE BAG**

The strongest and most perfect  
package for shipping and  
storing cement



Economical packing and smallest  
percentage of breakage < < <  
**IT IS WATER PROOF!**

**The West Jersey Bag Co.**

Front and Elm Streets

CAMDEN, N. J.

Tell 'em you saw it in ROCK PRODUCTS

# Be Sure You Are Right, Then Go Ahead



SCENE NEAR LA SALLE, ILL.

Aqueduct on Illinois Michigan Canal, built in 1838. Illinois Central Railroad Bridge, built in 1856. C. R. I. & P. Ry. Bridge and La Salle Waterworks Buildings. All of these were built with **UTICA HYDRAULIC CEMENT** exclusively.

## TIME HAS PROVEN ITS PERFECTION

When you order **UTICA CEMENT** for your brick and stone work, you may rest assured that you are **RIGHT**. Go ahead and use it. It makes the best mortar for brick and stone work.

*We guarantee every bag and every barrel*

**UTICA HYDRAULIC CEMENT COMPANY**

Utica, - - - Illinois



MILL:  
Kosmosdale,  
Kentucky



## Kosmos Portland Cement Co.

## RELIABILITY

WAR DEPARTMENT  
ENGINEER OFFICE, UNITED STATES ARMY.

Nashville, Tenn., February 20, 1909.

KOSMOS PORTLAND CEMENT COMPANY,  
Louisville, Ky.

Dear Sirs:—Replying to yours of the 12th instant, I beg to advise you that our records show that 22,250 barrels of Kosmos cement were received at Hales Bar, Tennessee River, for the lock under construction at that point, between June 23 and September 25, 1908. All of this material was tested and all of it accepted under the requirements of the Engineer Department specifications.

Very respectfully,

WM. W. HARTS,  
Major, Corps of Engineers

**A Destructive Fire Prevented the Completion of the 100,000 Barrel Contract. The Rebuilt Mill is Fire-Proof.**

It is universally recognized that no tests are more exacting than those of the War Department. A record of uniform acceptance, such as the above, is the best assurance to the purchaser of the unvarying quality of **KOSMOS** cement. It is a **FACT**—more convincing than any amount of **TALK**.

ASK FOR QUOTATIONS

## Kosmos Portland Cement Co.



SALES OFFICE:  
Paul Jones Building,  
Louisville



Tell 'em you saw it in **ROCK PRODUCTS**



## The Ironton Portland Cement Co.

Manufacturers of the

**Celebrated Limestone Brand of Portland Cement**

Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years. Cement as finely ground as any on the market. Guaranteed to pass all the standard specifications.

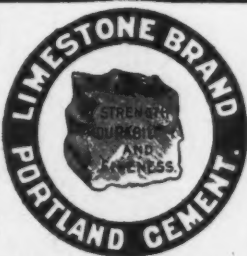
Plant located at Ironton, O., within easy access to seven States, namely, Ohio, Indiana, Kentucky, West Virginia, Virginia, Tennessee and North Carolina.

Shipments via the N. & W. Ry., C. & O. Ry., C. H. & D. Ry., D. T. & I. Ry., or Ohio River.

Write for Prices

**The Ironton Portland Cement Co.**

Ironton, Ohio



"THE BEST IS NONE TOO GOOD"

## HIGHEST GRADE of Portland Cement

Every Barrel Absolutely Uniform.

R. R. facilities especially adapted for prompt shipments in the northwest.

Capacity 1,500,000 bbls. Yearly.

**NORTHWESTERN STATES PORTLAND CEMENT COMPANY**  
MASON CITY, IOWA.

## MEACHAM & WRIGHT COMPANY

### CEMENT

CHICAGO

**CAPACITY**  
700,000  
**BARRELS**  
**ANNUALLY**

**OFFICE**  
**ALLENTOWN, PA.**



**STANDARD**  
**SPECIFICATIONS**  
**GUARANTEED**

## THE USE OF "MAUMEE" COMPOUND GUARANTEES WATER TIGHT CEMENT WORK

WRITE US FOR SAMPLES, INFORMATION  
AND PRICES

## The Maumee Chemical Co.

403 ST. CLAIR BLDG.

TOLEDO, OHIO



USE

## Superior Portland Cement

IN YOUR CONCRETE WORK and be assured of  
satisfactory results

Ask for a chemical analysis of Superior  
Cement, and we will show you something  
which will interest every cement user.

**The Superior Portland Cement Co.**

General Offices and Sales Department:  
Union Trust Bldg., CINCINNATI, O.

WORKS:  
**SUPERIOR, Lawrence Co., Ohio**  
on D. T. & I., C. & O., and N. & W. Railways

Washed-Steam Dried and Screened

## Ottawa White Sand

Unexcelled for { Facing Concrete Blocks  
Ornamental Concrete Stone  
White Plaster  
Roofing  
Exterior Plastering  
Sawing Stone and Marble, Etc.

Analysis 99.88

Prices, Freight Rates and Samples on Application

## The Only Standard Sand

**Ottawa Silica Co.**

Ottawa, Illinois

LARGEST SHIPPERS OF WHITE SAND IN THE UNITED STATES

Tell 'em you saw it in ROCK PRODUCTS



THE OLD WAY

# A TEN TO ONE SHOT



THE NEW WAY

You can mend TEN bags with

## Little's Sac Patching Sement

in the time it takes to sew ONE.

Time of mending and money saved. Isn't that economy?

Write for further particulars.

**THE C. H. LITTLE COMPANY**

**Detroit, Mich.**

### Facts about the Bates Valve Bagging System in the lime industry

Eighty per cent of the hydrating plants of the United States are using it.

Several plants have two baggers.

Several plants have three baggers.

One plant has four baggers.

Two plants have orders with us not shipped yet.

Six other plants are figuring on installing it.

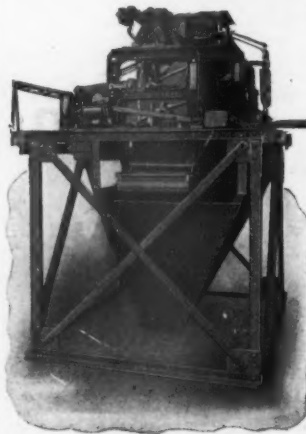
Our bagging machines will bag 150 tons in 10 hours with two men; 80 and 100 tons are being bagged now as a daily output.

The capacity of our bag plant is now being doubled.

We're in a position to take care of the entire lime industry of the United States.

**The Urschel-Bates Valve Bag Co.**  
TOLEDO, OHIO

### The RICHARDSON Combined Automatic Scale



Guarantees an absolute mixture of limestone and shale without expense of labor, and with a minimum of attention and cost of maintenance.

Pulverized, granular or lumpy materials handled without difficulty with equal facility.

**Many Successful Installations**

**RICHARDSON SCALE CO.**

7-8 Park Row, New York

122 Monroe Street, Chicago

Tell 'em you saw it in ROCK PRODUCTS





### The Third Annual Cement Show.

The demand for space at the third annual cement show in the Coliseum, Chicago, February 18 to 26, is very brisk. The general floor arrangement will be somewhat similar to that of the second annual show held in February. The scheme of furnishing uniform equipment and decoration for all exhibitors will again be followed. The main feature of the decorative scheme at the next show will be a large, ornamental centerpiece, 30 feet in diameter and placed in the center of the Coliseum floor. A competition is being held by the Cement Products Exhibition Company for a design for this centerpiece. It is to be constructed of concrete and may take any form the artist may suggest; some are designing pergolas, others fountains, band stands, etc. Three hundred and fifty dollars in prizes are being offered for the best designs for a centerpiece. There will be a number of new features in connection with the next cement show. The space rates have been only slightly increased over those which prevailed last year, the purpose being to provide more funds for advertising the coming show.

The National Association of Cement Users, the American Society of Engineering Contractors and the Illinois Association of Municipal Contractors will all hold their conventions in Chicago during the show. It is expected that the annual meeting of the National Builders' Supply Association will also be held here. All these conventions, together with the elaborate preparations for the show, will mean a tremendous gathering of building material interests in Chicago next February. President Humphrey, of the National Association of Cement Users, is busy arranging for the best program of addresses that has ever been presented at any previous meeting of the National Association of Cement Users. He anticipates a banner convention next February and expects to add largely to the membership of the National Association of Cement Users from the hosts that will gather in Chicago. President Jackson and Secretary Hauer, of the Engineering Contractors' Society, will also have an excellent program for the members of this big organization. Cement and concrete construction will probably play the most important part in the discussion of this society.

### Add Another Day.

It has been decided to add another day to the sixth annual convention of the National Association of Cement Users, which will be held at Chicago, Ill., February 21-25, inclusive.

### Dates Changed.

The executive committee of the Northwestern Cement Products Association convened at the Commercial Club at 12:30 p. m., in the city of St. Paul, on Wednesday, September 1, and unanimously agreed to open the sixth annual convention Tuesday evening, March 1, and close Saturday night, March 5, 1910.

The meeting was attended by practically all the cement men and cement machinery men of the Twin Cities and representative contractors.

The cities of Minneapolis and St. Paul are both anxious to entertain the convention, and made flattering offers and inducements to secure the cement show.

President Martin T. Roche appointed George J. Grant, St. Paul, Minn.; Harvey B. Smith, Minneapolis; Daniel L. Bell, St. Paul; O. U. Miracle, Minneapolis, and William Stewart, St. Paul, as a committee to investigate the buildings offered by both cities and empowered them to make final selection for the next place of meeting.

President Roche, in calling the meeting to order, stated that the purpose of the meeting was to promote the concrete industry, to give wide publicity to concrete in all its forms, and to install in the mind of every man, woman and child in the country that concrete was the best building material on earth; that a cement show is an ideal vehicle of publicity to reach the general public; that it created a wider and deeper interest in the use of concrete than any other method known, which has been proven conclusively by the wonderful interest shown by the general public in attending the cement show held in Minneapolis last year, and the rivalry and anxiety of the commercial bodies of both cities to secure the next convention.

The city in which the convention will be held will be announced as soon as the committee reports.

### Oklahoma Cement Show, Sept. 29 to Oct. 8.

The cement show, to be held in connection with the Oklahoma Cement Users convention, is attracting much attention from manufacturers of cement machinery, as well as contractors and block makers. The secretary reports that numbers of them are sending in membership applications and writing that they will be in attendance. They will attend this meeting for the purpose of learning all they can about improved methods and up-to-date machinery; and many of the larger manufacturers have already selected exhibit space so as to avail themselves of the opportunity of coming into personal contact with the trade in the Southwest territory, where this industry is growing so rapidly and the demand for cement products among the general public is increasing daily.

### Nebraska Cement Users.

The Nebraska Cement Users' Association will hold its annual convention February 1, 2, 3 and 4, 1910, at Lincoln, Neb. Every possible effort is being made to make this the most complete and successful convention yet held by this association. Peter Palmer, Oakland, Neb., the enterprising secretary, has sent out a list of questions to all concrete workers and manufacturers, and desires their cooperation by answering the same, for a more thorough acquaintance and general report of conditions.

### Northwestern Association's New Secretary.

The Board of Directors of the Northwestern Cement Products Association unanimously elected A. E. Pfiffner, St. Paul, Minnesota, as secretary, to succeed J. C. Van Doorn, Minneapolis, resigned. A vote of thanks was extended to Mr. Van Doorn for the good work he has done in behalf of the association, and for the persistent efforts that he made during the past year in its interests. Everyone regrets that press of business made it impossible for him to continue in the office of secretary; still, the association is extremely fortunate in Mr. Pfiffner's election to the office—he is extremely well adapted to take up the duties dropped by Mr. Van Doorn, as he is an old time concrete machinery man, and has a vital interest in its success. Mr. Pfiffner was born in Grundy County Iowa, thirty-nine years ago. After graduating from high school he entered the banking business, and later embarked in the real estate business. Five years ago, he, together with his father, bought an interest in the Cement Tile Machinery Company; later they disposed of their holding and organized the St. Paul Cement Machinery Company. Mr. Pfiffner has a host of warm friends, who feel confident that the secretaryship of the Northwestern Cement Products Association is in the right hands for its continuous growth and prosperity.

### Concrete Street Pavements.

After a thorough investigation of concrete for roadways and pavements the Universal Portland Cement Company, Chicago, show their endorsement of this material by issuing a booklet entitled, "Concrete Pavements, Their Cost and Value." This subject has long been one of interest to engineers and contractors, but it was not until comparatively recent years that this material was used throughout in the construction of street pavements.

We quote from the booklet as follows:

A concrete pavement is easily and economically cleaned, and from a sanitary and aesthetic point of view is an ideal pavement. When properly laid, such a pavement offers a good foothold for horses, is very little, if at all, more slippery than brick or stone block, and certainly less so than asphalt or wood block. Its resistance to traction is probably less than for any other pavement, and while it is not as noiseless as asphalt or wood block, is superior to brick and stone blocks in this respect.

Such pavements are probably not adapted to the heaviest traffic of our largest cities, but may be considered as suitable in all places where brick, wood block or asphalt would be proper; and adapted to all conditions of traffic except that demanding stone block. Concrete is the ideal material for the paving of residence streets, of alleys, courts and squares, and in general makes an excellent intermediate pavement, as to cost and durability, between the stone block pavement of heavy traveled streets and the macadam of our country roads.

Where properly constructed with suitable materials concrete pavement has been a success, and a careful inspection of the pavement as laid in a number of our principal cities and towns will, I believe, convince the most skeptical of the value of concrete as a paving material.

### Launch Concrete Dock.

OWENSBORO, KY., Sept. 15.—G. A. Whitehead & Company recently launched a concrete dock. This is the first floating dock of reinforced concrete construction to be built in America, and is regarded as a distinctive feat of civil engineering. The dock is sixteen feet wide and fifty feet long, and is built on a framework of tempered steel metal lath. Its construction

provides for thirty air-tight compartments four feet in depth, which are subdivided by partitions of reinforced concrete, with which the entire structure is thickly coated, and the finished dock is as smooth as a floor, clean, sanitary, attractive, time-defying and impervious to water. This renders the dock non-sinkable, while the reinforced concrete surface with which the structure is entirely sheathed is as smooth as a floor.

It is Mr. Whitehead's intention to construct a concrete barge which will be 100 feet in length, twenty-four feet beam and six feet deep. It will be used for towing sand, gravel, corn, etc., and will have a capacity of 600 tons.

### Many Concrete Silos.

GOVERNEUR, N. Y., Sept. 16.—There are at present about a dozen concrete silos being constructed within a radius of five miles of this village, this epidemic having been brought on by the fact that farmers who were fortunate enough last winter to have silos wintered their stock with comparative ease, while those who were less fortunate had strenuous times to secure fodder enough, and they are determined to forestall what promises to be a repetition of last winter's hardship. This fall the corn crop is not as large as last season's, but there is enough to fill the silos in most sections, and, as many of the dairymen have reduced their stock, little difficulty is anticipated. C. W. Hewitt, one of the best known farmers of this town, is having his second concrete silo erected, and other farmers in both this town and Fowler are planning to do likewise.

### Durability of Concrete.

H. F. Billings, of Billings & Company, importers and wholesale dealers in flint pebbles, Chicago and New York, writing us under recent date, had the following interesting comments to make regarding concrete and its durability and uses. Mr. Billings has traveled considerably and his opinion is therefore worthy of every consideration.

Have been an ardent advocate of the use of Portland cement for ten years and predicted that long ago what its uses would be as we see it today. I was called a crank at that time. Many people I talked to were skeptical as to its durability and thought in a few years it would disintegrate or crumble, and I find people today that are in doubt. In 1885 I took a party to Central America on an exploring expedition hunting placer gold mines. I visited Honduras, traveled with pack mules, as there were no wagon roads, over 400 miles in the interior. I took with me Prescott's History of Central America during Cortes's time. When he took possession of all that country and made slaves of all the natives. That was over two hundred years ago. I traveled on a road he built there, one hundred feet wide and paved with cobblestones laid in cement. Where there were cracks a little grass was growing, but nothing else. I traveled on this road many miles. About one hundred miles further on, where I stopped to prospect for gold, I met a very old Honduranian. He must have been eighty or ninety years old and very intelligent. He told me his ancestors were slaves under Cortes and he took me to an old abandoned gold mine (quartz) that Cortes worked. It was a tunnel that ran into the side of a mountain. It had caved in about fifty feet from the mouth of the tunnel and pine trees three feet in diameter had grown up since.

He then took me down the other side of the mountain to a creek with a dam across made in an inverted V shape same as our modern dams are built. This dam was built with cement and cobblestones and was as perfect as when first constructed. He then showed me a ditch cut through solid rock from the dam to carry the water to an old Spanish avasta fifty feet below for pulverizing the ore. This avasta was made of cement. The walls were about sixteen inches thick, four feet high and a circumference of ten feet. Inside was a stone with a slot cut into it to attach to the arm of the shaft that revolved by water power, probably an overshot wheel. In the center where the shaft stood was a satinwood tree four feet in diameter. I tested the walls of the avasta and also the dam with a steel cold chisel and I could not make as much of an impression as I could on a granite rock. This, I think, is proof positive of the durability of the concrete. This may interest those that are skeptical. This statement can be verified by parties that were with me.

### Display at Ohio Fair.

COLUMBUS, OHIO, Sept. 20.—At the state fair, held here recently, one of the features of the displays was that of the Hickson Sewer Mould Company, of Mt. Gilead. Joseph Hickson was in charge of it, and cast a concrete pipe three feet in diameter, fifteen feet long and five inches thick, showing the adaptability of their mould for sewer and culvert construction.

### New Block Company at Davenport.

DAVENPORT, IA., Sept. 18.—The Tri-City Concrete Company has been organized to manufacture concrete blocks. The company, of which J. G. Birtness is the head, will take over the machinery of a plant which has retired from business. A location has not as yet been determined upon, but will be situated convenient to transportation and available materials. Blocks will be made under the Ferguson system.

## THE PRACTICAL VALUE OF DRAIN TILE.

(Continued from Page 3.)

result of their year's work washed out in a few days. Such property can be tiled and drained quickly to carry off the water before disastrous results occur, and the crop is saved.

Every piece of land that can be cultivated becomes more valuable and as land is made to yield more, it increases in value. Land on which crops are now raised but which do not yield their proportion, on account of the dampness, can be drained to increase the production. Then again, if the land is drained as quickly in the spring after the rains the sooner can plowing be done.

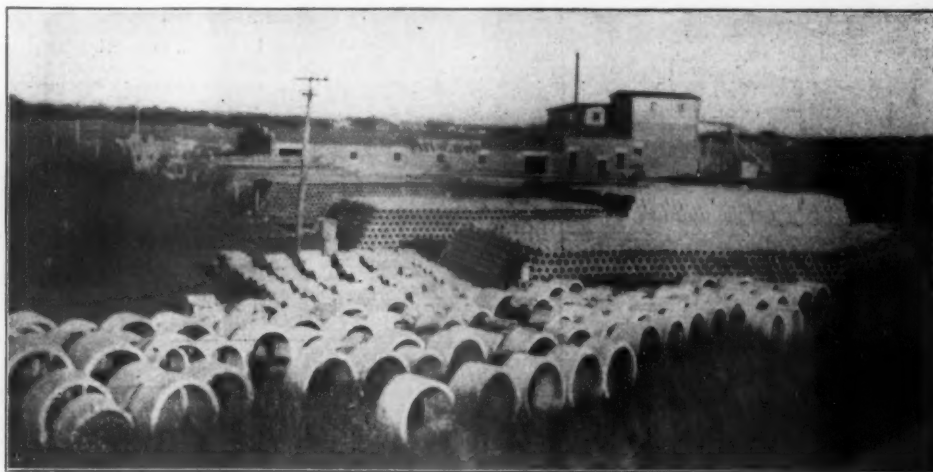
What is the best means and how is the question.

This was investigated recently by ROCK PRODUCTS, and a staff man spent many days recently visiting farmers, users and manufacturers of products, for the purpose of securing data that would give the best means available, at an economical cost, to aid the man with property that needs nothing more than a drainage system to render his land more valuable from the standpoint of production and operation.

After all the data has been collaborated, the conclusion arrived at is that by the use of drain tile the farmer has a product superior to any other method of drainage which can be procured with little trouble and laid in the ground cheaply. Drainage by tile draws the water downwards, and with it is carried the fertilizer, thus completely drawing it into the soil. Porus clay tile was formerly the only material used for this purpose, but in the last few years concrete tile has been successfully introduced, and has won great popularity. This article will deal particularly with the latter development.

Progressive farmers have found that the cost of tiling proves a valuable investment. Take, for example, a piece of land such as one that was visited, consisting of eight acres on a slope draining into a hollow, and which requires tiling to make it workable. It may require 100 rods of 4" and 6" tile, which will cost about 75 cents per rod laid in the trench. Taking the figures at this particular farm as a basis, there must be added the cost of hauling, which the farmer does himself, and the cost of the engineer for the surveying work done. These will bring the cost of the whole tiling, including the filling of the trenches, up to about \$100.00 for the eight acres, or an average of \$12.50 per acre. It would be a poor crop indeed which would not yield \$12.50 per acre the first year, which would pay for the tiling. Offsetting this is the increased value of the land, at least the \$12.50 per acre. In sections where land is worth \$75.00 per acre, and where a number of acres have not been used, it can be readily calculated how much this would increase the value of the property.

The investigation conducted by ROCK PRODUCTS developed the fact that few users of tile have anything but the utmost confidence in concrete tile, which has in the past few years come to the fore quite rapidly. The inherent merits of concrete tile has won its popularity. At the inception of the industry concrete tile were made by hand until the tile machine made its



THE PLANT OF THE SHEFFIELD CEMENT TILE AND BLOCK COMPANY, SHEFFIELD, IA.

appearance. Today there are 150 concrete tile plants in the country. With few exceptions, these plants are operating, and on such a scale that they are making good on the product and for the operators.

When proper care is taken with the manufacture of concrete drain tile, it is a commodity that has a ready sale, for it has distinctive advantages. It is made in exactly even lengths, with clean and perfect edges, for the reason that they are cast in a mould and have nothing to twist or draw them out of shape. For this reason concrete tile can be laid more uniformly with all the ends even and squared up. With all the materials such as concrete, transportation must be considered. To be able to ship without breakage is a very important item. To open a car and find a large number of broken pieces is discouraging and a fertile cause for disputes and adjustments. It is expensive to have to pay for a product that cannot be used. At one place in Cerro Gordo County, Iowa, a man was unloading a car of concrete drain tile and found that in 5,000 pieces there were but four broken tile. In another car unloaded he found not a broken tile, despite the fact that over 2,000 tile had been taken out of the car at that time. These observations reflect strongly in favor of concrete tile in this essential particular, and it is but a question of placing it before the farmer in the right light to convince him of the qualities of this material for drainage purposes.

There are two ways that tile is laid, one by hand and the other is by the use of a ditching machine. The cost of laying the tile is about the same, though the machine is a speedier method.

One of our illustrations was taken on the farm of Will Connors, in Doherty Township, Cerro Gordo County, Iowa, which shows the progress of the work from the time the ground is broken until the tile is laid in the trench.

The surveyor has laid out the line of the course to

be followed. He has also struck the level and the depth that the tile is to be laid in the ground. The contractor lays out the line and the men start digging the trench. When the proper depth has been reached the tiler begins work. The tile are laid in the trench with a fall of one inch to the rod.

Speaking of his experience with concrete tile, Mr. Connors said to the representative of ROCK PRODUCTS that he laid out a row of tile by the trench last fall. They lay there all through the winter. In the spring he observed there was not a broken one in the whole lot. He has used other means of drainage, but fully believes that this tile gives the best results. He is now laying 500 rods of concrete tile, which he expects to have in the ground before the winter.

On this farm, the work, as in other places, is done under contract. The owner buys and hauls the tile and lays them along the line of the trench. The contractor takes the levels laid out by the engineer and digs the trench. Contractor Edgar, who was at work on this farm, had a crew of five men. This crew was able to lay out, dig the trench, lay the tile and fill in forty rods of tile per day. The cost of the work of laying tile per rod is as follows: 25 cents for 4"; 30 cents for 5" and 6"; 40 cents for 7" and 8"; 60 cents for 10", and 70 cents for 12". All tile figures are based on a three-foot depth, the charge being one cent per inch for deeper trenches.

At the farm of John Connor, in Doherty Township, Cerro Gordo County, Iowa, the ROCK PRODUCTS man found a ditching machine at work. Much greater speed can be made with the machine, though the cost of laying the tile is about the same. One thing about the machine is that the same width of ditch is dug for any sized tile, and the Buckeye ditcher is shown in operation. One day, at this farm, 100 rods of trench was dug and laid by the crew of five men with this machine. The work is in charge of William O'Hara, who is the contractor for 720 rods of concrete tile which is in course of construction, and the size of tile varies from eight to ten inches in diameter.

The ditcher is operated similarly to a traction engine. It runs by its own power. A large wheel with blades and cutters digs the trench. The dirt is discharged upon a belt conveyor and thrown to one side of the path. The line to be dug is laid out by the surveyor, and stakes with label arms giving the depth to be dug are posted on it. The operator of the machine sights the stakes and steers accordingly. The machine is equipped with a rod which sights the direction, as well as showing the depth the trench is dug.

Discussing the question of refilling the trench, it was the unanimous opinion that the top soil should be thrown to one side and the deeper soil to the other. The black soil should be thrown in first, that is, on the top of the tile. Top soil is more porous and allows a better seepage than the bottom soil, which is in most cases full of clay, as well as sand, and becomes more closely packed.

The field of usefulness for concrete tile is here to stay. In the concrete industry, this branch of the business has developed in some localities more readily than in others, principally on account of local conditions. Probably the greatest development of the tile business is in the state of Iowa, where there are vast areas of farm land. Mason City is the greatest manufacturing center, and there are nine operating companies at that place. During the month of August one plant alone shipped an average of thirty-eight cars of tile per day.

On account of freight rates it can be seen that



STORAGE YARD AND PLANT OF THE HAWKEYE CEMENT TILE COMPANY, MASON CITY, IA.



most of this product must be used within a radius of a few hundred miles. Imagine the field that this industry offers, with such a product manufactured of concrete.

Concrete tile, as any other material made of concrete by honest methods, with a careful proportion of materials, with the proper care given to the manufacture and with the necessary amount of curing, will stand on its merits.

Any manufacturer who looks to these details will make a product that, like any good product, will ring true when tested. It will not need much suasion to induce a man to use the concrete tile. It requires but little expense of selling if the product is made properly, and its use presented to the right men in the true light.

A tile factory cannot be started on a small amount of money. A goodly sum is required to swing such an enterprise, but it has proven a good investment in very many cases.

**The Hawkeye Cement Tile Company**

The Hawkeye Cement Tile Company, whose plant is located at Mason City, Iowa, commenced operations

There are four moulds on the revolving plate, two men lift the moulds onto the car and remove the moulds. The tile is inspected while it is in this condition, so that only perfect tile is allowed to be sent to the curing room.

The cars on which the tile are loaded are three-deck cars with folding platforms. Each car holds seventy-two tile of the smaller sizes. The car is run to the transfer track and then into the steaming room.

There are four of these rooms, seventy feet long, each containing three tracks, and have a total capacity of one hundred cars. Exhaust steam is introduced into the curing room and the tile are allowed to remain here for three days. The cars are then run out into the storage yard and the tile are air cured for two weeks. They are then ready for shipment.

The power for the plant is furnished by an 80-h. p. boiler, built by the Murray Iron Works, of Burlington, Iowa. A 40-h. p. engine runs the plant.

The entire building is constructed of concrete, as the company has the utmost confidence in its own products. Besides the tile business, they have another line devoted to the manufacture of concrete

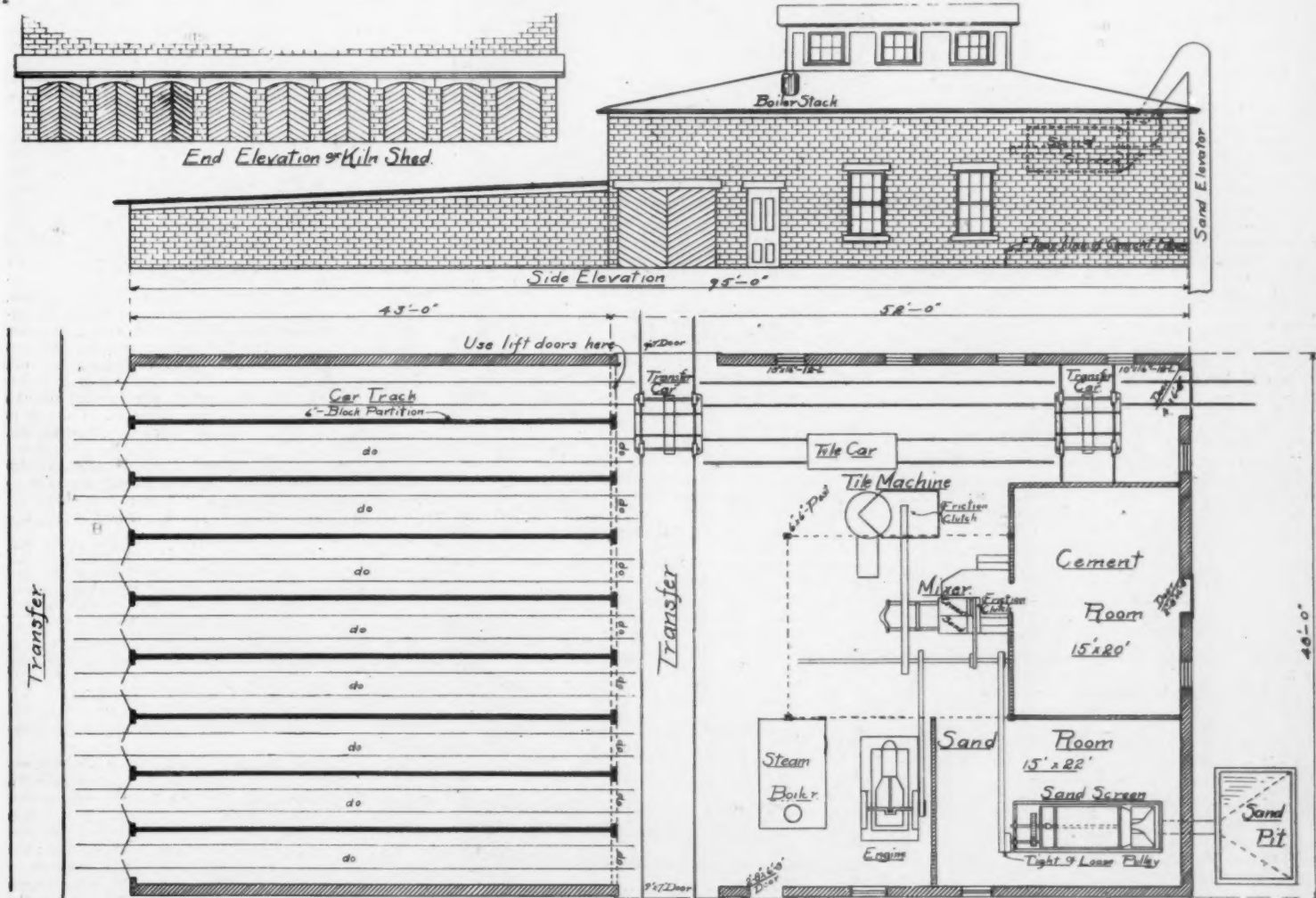
an excellent deposit of sand and gravel which requires but a few inches of stripping.

The main factory building is 150'x64'. The plant, up to this time, has been operated by the power of a 20-h.p. gasoline engine, but electricity is now being introduced, that the machines may be operated by individual electric motors.

In the pit, the sand and gravel is shoveled into a Koppel car and hauled up the incline. The car discharges the sand into a hopper, after which it is screened. The hoisting apparatus and the screen are to be operated after this by a 5-h. p. motor. All material over  $\frac{3}{4}$ " size is spouted to a pile outside the building. There is a ready sale for this gravel for concrete work in the city.

After the material is screened it is spouted into a Perfection mixer, where it is mixed with the cement and deposited on the floor. Here it is picked up by the elevator of the tile machine and deposited in the feeding hopper.

The well-known Schenck tile machine, manufactured by the Cement Tile Machinery Company, of Waterloo, Iowa, is in use. The material is poured into the



TYPICAL PLAN OF A MODEL CONCRETE TILE PLANT.

in March of this year. L. M. VanAuken is the president and W. T. Huffman is the secretary and treasurer. The company owns ten acres of land about a mile east of Mason City, on the main line of the C., M. & St. P. Railway, with a switch track from the main line into the yard of the plant. The property is underlaid with a deposit of sand and gravel, with but a few inches of stripping necessary.

The factory is a one-story building constructed of concrete blocks. The main building is 170x70 feet.

The sand pit has been opened to the north of the building. The material is conveyed by car to the top of the building and discharged into a sand bin. By gravity it is spouted into a Perfection concrete mixer, where it is thoroughly mixed with cement. The mix is then elevated by bucket conveyor into the hopper of the tile machine. This machine was manufactured by the Electrical Cement Post Company, of Lake City, Iowa. The mix is then spouted into tile moulds and the plunger packs the material into the moulds.

blocks. In this they use a Miracle concrete block machine, and the blocks are tamped by a Kramer automatic tamper.

It requires sixteen men to operate this plant, and the company are constantly supplied with orders. They are shipping on an average of four cars per day, with the prospects of keeping them busy for some time.

**The Sheffield Cement Tile & Block Company.**

The Sheffield Cement Tile and Block Company, of Sheffield, Iowa, have a factory, considered by the designers as a model one for the manufacture of concrete tile. The plant has now been in operation about a year.

The officers of the company are: C. F. Johnson, president; John Connors, vice-president; G. A. Johnson, treasurer, and L. S. Sullivan, secretary and general manager.

The company owns five acres of land on the St. Paul & Des Moines Railway. The property contains

moulds and from the moulds lifted to the cars by two men. In this plant the rack system of cars is used. The car, when filled is run to the transfer track and into the curing room. The curing room is 98'x64', and contains three separate kilns. They now have a capacity of seventy-two cars. Preparations are being made to extend the curing rooms, 64'x98', increasing the number of tracks to give a total of twenty-two for a capacity of 168 cars.

A splendid system of curing is in vogue at this plant. The curing rooms are equipped with steam jets below a sprinkler system above. When the kiln is filled, low pressure steam of one hundred and twenty-five to one hundred and forty degrees is turned on. Four to five times a day the sprinkler system is operated, and the fine spray moistens the tile, which is kept here from five to seven days.

The tile is then stacked on the yards, where it is allowed to cure for forty to sixty days before being shipped. They are at the present time shipping from

three to five cars a day, with many orders on the books for future delivery.

This plant has a concrete block department equipped with a Hayden block machine and a Kramer automatic tamper.

Mr. Sullivan, the manager, is a young man who has made a thorough and complete study of the tile situation. He has had confidence in concrete tile, and it has been his policy to make and ship only the highest quality. The testimony of his customers demonstrates how well he has succeeded.

### Crane Building Completed.

MEMPHIS, TENN., Sept. 10.—The C. L. Gray Construction Company, general contractors, have completed the new building for the Crane Company here. It is of reinforced concrete, with an exterior of brick. Crystal Rock plaster, manufactured by the American Cement Plaster Company, Lawrence, Kan., was used.

### Concrete Work Under Water.

The operation of depositing concrete under water to form concrete foundations and similar work is always interesting and this character of work is being done at the present time on a larger scale than ever before in the construction of the Detroit River tunnel. In depositing the material "tremies" are made use of, operated from a barge carrying the concrete mixing plant. These are riveted steel tubes, slightly longer than the deepest parts of the river, and discharge the concrete directly into the forms. To exclude water while the first batch is being laid, two or three empty cement bags are stuffed into the top of the tube and the wet concrete is poured in, forcing the bags down and the water ahead of them, and by continually maintaining the tube full of concrete no water can enter. After the concrete begins to emerge from the lower end, the tube is kept several inches under the surface of the mass, forming a seal. As the concrete builds up in the forms the tremie tubes are raised in the towers supporting them on the barge. A floater rises with the concrete and indicates through a wire to the operator on the scow when the tremie should be raised. The wet concrete distributes itself from the bottom of the tremie tube in a circle about ten feet in diameter.

### New Concrete Block Plant.

TOLEDO, O., Sept. 16.—The Weiler-Berger Concrete Construction Company has purchased two acres of the Wheeling Belt, facing East Broadway, and will erect a building preparatory to the manufacture of concrete blocks, sewer and drain tile. The company has a capital stock of \$10,000 and will employ twenty-five or thirty men. Work on the buildings will begin as soon as the sidetrack is in from the Wheeling Belt.

### Will Make Concrete Blocks.

LOGAN, IA., Sept. 12.—Frank Peckenpaugh is now at work putting in machinery for concrete work at his limestone quarry and sand pit immediately east of Logan, on the Boyer River. Owing to the quarry and sand pit being unlimited and located near the two railroad freight depots, Mr. Peckenpaugh's business venture is regarded as full of promise for the future.

### Manufacture Artificial Stone By Hydraulic Process.

KLAMATH FALLS, ORE., Sept. 16.—To extend the manufacture of artificial stone and brick by a hydraulic process the Hydraulic Stone and Brick Company has erected a building and installed a plant of modern machinery here. In addition to the brick and blocks the company is preparing to manufacture sewer pipe. Machines for this purpose have already been ordered and are expected here in a few days. Paving blocks and tile will be added later.

### Secures Contract For Concrete Dam.

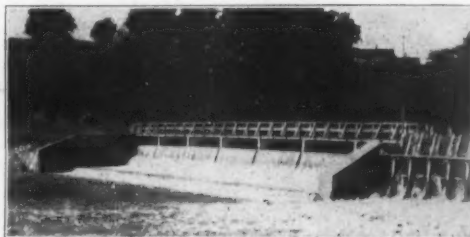
SPRINGFIELD, MASS., Sept. 18.—The P. A. Breglio Construction Company have been awarded by the Amherst Water Company, of Amherst, the contract for building a dam with core wall for a five-acre storage reservoir in that town. The local company were the lowest bidders among nine contracting companies, their figures being \$28,205 for the work. The reservoir is to be built for a private corporation. There will be a V-shaped concrete dam with core wall in the center, thirty-five feet high and about 500 feet long. Work will be started as soon as the working force and equipment can be transported to the scene of operations.

The contract specifications include 8,000 cubic yards

of excavation, 18,000 cubic yards of dirt filling, 650 cubic yards of loam surfacing, 1,200 cubic yards of concrete dam and core wall, 1,800 square yards of slow paving, 700 cubic yards of rubble masonry, pipes, gates and appurtenances.

### The Belding Dam.

BELDING, MICH., Sept. 13.—The accompanying illustration shows a view of the concrete dam built by the Richardson Silk Company, of this place. This dam is of solid concrete and was made from designs drawn by W. G. Fargo, C. E., of Jackson, Mich. Twelve hundred barrels of Portland cement were used, of the following brands: Northampton, Medusa, Newaygo, Peninsular, Aetna and Whitehall. The dam is of solid concrete and has a 132' pourway, a 60' wierway, is 39' at the base and 10' in height. The wing walls at both approaches are also



DAM OF RICHARDSON SILK COMPANY, BELDING, MICH.

of concrete. The dam is constructed on sheet piling driven to firm bottom, both above and below.

While this is not one of the largest dams of this state it is one of the best, and although it has seen six years' of service is destined for a long life of usefulness yet to come. The total cost of the dam was \$14,000.

### New Feature In Chicago.

Some of the oddest stores and offices in the world are now being built in Chicago at the intersection of Wilson and Evanston avenues. They are going up directly under the steel girders and cross beams of the Northwestern Elevated Railroad. The are constructed for the most part of hollow tile, the exterior being plastered with cement stucco material, the roofs also being made of hollow tile with a concrete topping of two inches, and this overlaid with an ordinary felt and gravel roof. It is claimed that the noise from the trains above will be practically deadened by the cellular nature of the tile, and that the otherwise wasted space will be thus made available for business purposes. Practically all of the partition walls and floors are also of hollow tile and concrete construction, which makes the buildings fire proof. All of the offices and stores have been rented previous to their completion, and this cue has been promptly taken up by other builders who



CONCRETE BRIDGE AT KANKAKEE, ILL.

have located waste spaces of land beneath the elevated railroad tracks, so that it amounts to a new building feature in the great western metropolis.

### Concrete Reservoir.

The city of Vancouver, Wash., has recently completed a 1,500,000-gallon reinforced concrete reservoir, which will supply the city with water. The reservoir is 140'x90' and has a depth of eleven feet. It has a heavy concrete floor and reinforced concrete sides, fourteen inches thick at the base and ten inches at the top. The Hurley-Mason Company, of Portland, erected the reservoir.

### Building Concrete Bridge.

HACKETTSTOWN, N. J., Aug. 24.—The Lackawanna Railroad has workmen building a new and larger concrete bridge over the public highway at Delaware. It is to take the place of the old stone bridge, which has done service since the building of the road.

### Modern Factories Are All of Concrete.

One of the largest of the new manufacturing plants in Chicago is that of the Spaulding-Merrick Company, now nearing completion at the corner of Forty-third and California avenue and adjoining the Chicago Terminal Transfer railway right of way. The plant consists of a reinforced concrete factory building, six stories and basement in height. This building is 110x235 feet. Adjoining are the offices of the company, 80x110 feet, and a two story warehouse for the storage of tobacco, 235x110 feet. The building was designed by Nimmons & Fellows, architects, and cost, completed, about \$500,000.

### Exhibit at Indiana State Fair.

The state fair as well as the county fair has an educational influence which can not be underestimated. It is a time-honored institution, the beginning of which runs back into the dim and misty past.

Here the farmer and his family meet their friends and relatives once a year. The fair might well be called the convention of farmers, for while they are not always members of the organization giving the fair, they are a very necessary part of the institution.

The cement manufacturer and the manufacturer of concrete machinery were not slow to take advantage of the fact that these fairs offered a very desirable means of reaching the farmer, who is always looking for something new. Some of the exhibits of the cement men have been of a highly instructive nature, calculated to educate the farmer in the practical use of cement about the home and the farm.

The cement manufacturer has not been slow in estimating the value of this kind of practical publicity. The farmers in this country are having large crops and are getting more money for their products than was ever known in the history of this country. It is fair to presume that they will spend some of this money in improvements and concrete offers a wide field for the farmer's inventive genius, besides appealing to him from a practical standpoint. The farmer sees where he can erect durable, fire proof structures, which are sanitary and vermin proof, at very little additional cost over the old frame buildings.

It offers the additional advantage in that he can do the work to a great extent himself. Lumber is higher today than it was five years ago, and cement is lower.

Fire protection on a farm is one of the features of concrete construction which especially appeals to the farmers, as in the country they naturally do not have very great efficiency in their fire fighting apparatus.

At the Indiana State Fair recently held at Indianapolis quite a number of cement manufacturers and others identified with the interest were represented with exhibits of a more or less interesting and instructive character. Among the exhibitions were the Universal and Lehigh Portland Cement Companies, Besser Manufacturing Company, The Cement Tile Machinery Company, Waterloo, Iowa; the Eureka Mixer, and the Kramer Automatic Tamper.

### New Paving Material.

A recent French invention in paving consists of embedding in concrete fine iron shavings, or iron excelsior. The metallic shavings ordinarily come in sheets or masses, which can be broken apart with difficulty, owing to the intertwining of the filaments and which are somewhat elastic.

In constructing paving blocks a mold is filled with these iron shavings and the interstices filled with cement grout sufficiently fluid to penetrate the entire mass. The blocks thus formed are said to possess great strength and resistance to abrasion, and also (what seems less credible) elasticity under blows or jarring.

### Concrete Manufacturing Plant.

Plans for the Gilbert Building, a \$300,000 reinforced concrete manufacturing plant, which George F. Lasher will erect on the plot extending from Cherry Street to Quarry and from Juniper to Clarion, Philadelphia, Pa., have been prepared. The plans provide for an eight-story and basement structure, 120x150 feet.

### Concrete School Building.

Architect Norman F. Marsh has been selected to prepare plans for a two-story, eight-room grammar school, to be built at the corner of Marengo and Roland Streets, South Pasadena, Cal. The lot is 287x400 feet. The intention is to make the building as nearly fireproof as possible, and the style of construction will probably be concrete.



## THE SUMMER RESORT.

## Fire Danger Is Ever Present In the Wooden Buildings Now In Vogue. This Can Easily Be Avoided.

Fire proof summer resort hotels are at present practically unknown, and yet there is probably no special class of structure that needs this particular quality so badly. When a man sends his family to a summer resort, unless he is very careless indeed, he must realize that those most dear to him are far beyond expert fire protection such as is furnished by city fire departments, or even the ordinary protection which comes from an extensive community where many people are unconsciously the keepers of their neighbor's safety. The old type of frame hotel, now prevailing at most of the seaside and mountain resorts, is the best possible type for quick burning qualities that could well be contrived.

Probably the percentage of loss by fire at summer resorts is comparatively small and few lives are ever lost in the burning of summer resort hotels, although it is not uncommon for the guests to lose their clothing and jewelry, and if such a fire should occur in the night time, unquestionably many human lives would be jeopardized even if no actual casualties occurred.

On the opening night of the present season the Fort William Hotel, at Lake George, was destroyed by fire. It was a tremendous wooden structure and was reduced to ashes in less than an hour. On September 13, two large resort hotels on Long Island, one at Edgemere and the other at Point of Woods, were burned. In all of these a large number of guests lost clothing and jewelry amounting to many thousands of dollars, and it was quite as much of an accident as the fire itself that no human lives were lost.

As the first cool mornings of the season approach and fires are lighted in the open hearths of the summer resort hotel of the period, these fires are more and more numerous, so that one can scarcely scan the news of the day without being confronted with the details of the destruction of one or more of these flimsy hostelrys dedicated to the summer pleasures of the families of the American business men of this generation.

Of course the reconstruction of all the summer resort hotels of concrete and steel would be a stupendous task, but it is only sane to recommend the replacement of such as are destroyed with the only known material that will make them permanently safe in the future and do away with the damage and even the risk that is now so prevalent and has always



MASONIC TEMPLE, YOUNGSTOWN, OHIO. THAYER & THAYER, ARCHITECTS, NEW CASTLE, PA. 20,000 CONCRETE TILE USED IN PARTITION WALLS.

obtained up to the present time. If those who are interested care to investigate the matter, it will be found that it is now quite easy, in all parts of this country, to find concrete materials and men with the training to design and construct all classes of buildings quite as cheaply as they can be built of wood, when the annual maintenance cost of wooden buildings is taken into consideration and compared with the maintenance of a substantial and fire proof concrete hotel building.

## The Wooden Summer Cottage.

It would not be fair or just to close this article without another reference to the summer cottage or

bungalow in the woods, which so many American business men have built for their families in the last decade. These have been and are for the most part constructed of very flimsy materials, and in them are housed during the greater part of the time unprotected women and helpless children, far from succor of any kind in case of fire. The repeated warnings of calamities such as that which will be presently cited should not go unheeded by the man who thinks enough of his family to provide them with a pleasant summer shelter. It is also quite the duty of the man engaged in the concrete industry to let the owners and prospective builders of summer homes know that they can build fire proof and safe in every particular and at the same time more beautiful, and quite as cheap as they can be substantially constructed of the flimsy, combustible material now exclusively employed.

Robert A. Walsh, a citizen of St. Paul, Minn., built a summer cottage for his family beside White Bear Lake, in Minnesota. On September 10 it was destroyed by fire and resulted in the immediate death of three of his children, who were burned to unrecognizable ashes as they slept in their beds. The ages of these children were nine months, four years and five years respectively. Another son, nine years old, was so badly burned that he may not recover from his injuries, while a daughter of twelve years of age was disfigured for life in her heroic efforts to save the other children who were asleep on the second floor of the cottage. Mr. Walsh, the father, was also seriously burned by the explosion of the gasoline stove while he was attempting to fill the reservoir, which accident was also the cause of the setting fire to the house.

It is but another sample case of the wilful risks that are unnecessarily taken by people who are well able to provide safety in connection with their summer homes. The number of families that are in such danger at the present time amounts to hundreds of thousands, and catastrophes such as the above should no longer be considered as incidents of the news of the day, when the completed concrete industry is equipped and prepared to make such holocausts impossible.

## Concrete Hollow Tile In New York.

The plant of the Concrete Products Company, of New York, located at Flushing, L. I., having splendid shipping facilities both by water and railroad, is a very busy scene at the present time. They are manufacturing hollow concrete building tile by the Pauly process and turning out a very sightly and high quality building material. Their aggregate materials are of the best obtainable, such as trap rock, screenings, and clean washed sand, and they are using Portland cement and hydrated lime in combination in their mixture. They are operating ten tile machines to the limit of their capacity and find a ready market within the immediate vicinity of their plant for all the goods that they turn out. Another branch of the activities of this concern is Unit Bar reinforcement for concrete girders and beams.

In speaking of the business Ross F. Tucker, president of this concern, at his office, 35 East Thirty-second street, New York city, said that their goods have been well received, and that they have developed the satisfactory operation of their plant rather sooner than they expected and they hope to accumulate a sufficient stock of this premier concrete building material to take care of the early market demands next spring. They have now in the factory twelve more machines for making tile which will be added to the equipment as soon as practicable to increase the volume of output during the winter run.

## Practical Solution of Fire Danger.

A. A. Pauly, the manager of the Concrete Stone & Sand Company, Youngstown, O., the inventor and manager of the original plant for the manufacture of concrete hollow tile, reports a constantly growing demand for these goods in his, the pioneer market. On this page are illustrated two of the many structures in which tile is now being used by delivery from his plant.

Such material is easily understood by the workmen of any locality and is the practical solution of the fire danger whenever and wherever the builder cares to eliminate that element from the work that he has in hand.

## Concrete Wireless Station Tower.

The United States Government will build a wireless telegraph station in the near future on some Government reservation near Washington, D. C., not yet decided upon. It will be in the form of a gigantic tower, six hundred feet above ground, constructed of concrete. It will have a base of fifty feet diameter and taper to a width of eight feet at the top. It is expected to have it in operation within a year, and when completed it will be one of the most curious structures in the world and a monument to the material of which it is built, concrete, which the Government is recommending for all sorts of construction.



TYPE OF RESIDENCE CONSTRUCTED ENTIRELY OF CONCRETE TILE, WITH EXTERIOR PLASTER FINISH. BOTH ECONOMICAL AND FIREPROOF.

### A Strictly Fireproof Factory.

Ground broken last May at Marion, Ind., for the large factory building of the Western Motor Company is completed. It is 67x450 feet, two stories in height and built of reinforced concrete by the Kahn system, using a sheared bar, with the shears turned up, and hollow tile floor construction.

All the framework of the window and door sashes is of iron, and it is a fireproof building throughout. The roof is constructed of waterproof cement; all the big openings for windows on its four sides make every nook and corner of its interior light as day. Its plumbing, sanitary appliances and steam heating apparatus make this one of the best modern, up-to-date factory buildings used for making automobile motors. The building was constructed under the superintendence of C. N. Barley.

E. H. Walcott, secretary of the Western Motor Company, said that with the facilities this factory building now gives his company to manufacture the Rutenberg motor make it the largest manufacturer of gasoline motors in the United States.

### Concrete In the Farmyard.

An enterprising farmer of Iowa has found the use of concrete of great practical benefit to him. He had been troubled with mud and dampness about his yards, especially at the barn entrance. He conceived the idea that a concrete floor or walk would do away with this, so he contracted the work to L. C. Russell, of Fredericksburg, Ia., who laid 13,472 square feet of floor. Expansion joints were made at regular spaces. The work required six hundred barrels of Northwestern cement and was furnished to the contractor by the



BARNYARD AREA OF CONCRETE AT FREDERICKSBURG, IA.

Eclipse Lumber Company, of Fredericksburg. The floor has given excellent satisfaction and the farmer now drives his cows in from pasture and milks them at this place before turning them into the barn. It has proven a practical method of cleanliness, as the floor is perfectly dry and can easily be swept or washed off when it becomes dirty.

Here is a suggestion for the cement dealer and the concrete contractor. Show the farmer how such a floor will benefit him and it is safe to say he will accept the suggestion and act on it.

### Make Granite-Faced Concrete Blocks.

GRAND RAPIDS, MICH., Aug. 29.—The Standard Artificial Stone Company, Shamrock and Hilton Streets, has purchased the patent right to manufacture granite-faced concrete building blocks. This company makes everything in the line of concrete building materials, including hollow blocks, rock-faced and beveled, porch columns, spindles and rails and cement bricks, also marble-faced blocks and any special design blocks that may be wanted.

### Secures Many Contracts.

The following contracts have recently been awarded the Raymond Concrete Pile Company, of New York and Chicago:

The contract for the concrete piling and footings of the warehouse to be erected for the Buhl heirs, at 115-119 West Woosbridge Street, Detroit. John Scott & Company are the architects of the building.

The contract for placing about 700 Raymond concrete piles in the foundation of the new high school building on North Washington Street, Wilkes-Barre, Pa. Owen McGlynn is the architect of the building, and the Sax & Abbott Construction Company, Philadelphia, the general contractors.

The contract for placing Raymond concrete piles in the six-story reinforced concrete factory building that is being erected for Brewster & Company, carriage builders, at the Queensboro Bridge Plaza, Long Island City, N. Y. Stephenson & Wheeler, architects; Tucker & Vinton, general contractors.

### INDIANA RETAILERS.

(Continued from page 24.)

material. Its facilities for receiving and distributing these supplies are excellent. Its yard is located on the tracks of the Chicago and Eastern Illinois Railway, with a switch track running into the yard close to the warehouse where the cement, plaster and lime is stored, and near all points in the yard where material is stored in the open, ensuring economical handling and prompt delivery. It uses five double teams and ten horses for this purpose. The barn stabling these horses is in the yard near the warehouse. The lime house is beside the switch track. It is specially built for the storage of lime, on the same principle as a refrigerator, and holds three carloads of this material.

Three thousand barrels of cement are frequently stored in the warehouse. Atlas and Universal Portland and Speed Louisville cements are the principal brands carried, the product of the United States Gypsum and American Cement Plaster Companies, and lime in bulk and hydrate from Huntington, Ind., and the A. & C. Stone and Lime Company are handled, also sewer pipe from Brazil, Ind., and Wm. E. Dee, of Chicago, crushed stone from the A. & C. Stone & Lime Company, of Indianapolis, Ind., for which they are the agents here. The territory over which the business of this concern extends is twenty-five miles through the surrounding country of Terre Haute. This concern reports business good and prospects bright.

Reiman & Stegg Company.

Reiman & Stegg Company, dealers in building ma-

this year, and believes the future has good things in store.

August Fromme also deals in cement, plaster and lime.

### CAMBRIDGE CITY.

The Cambridge City Lumber Company, located at Church Street and the Panhandle railroad, with a switch track running from this road into the yard, close to its warehouse, which has a storage capacity of one thousand barrels of cement, lime and plaster, possesses exceptionally fine facilities for handling the material it deals in.

It handles Lehigh and Superior Portland cements, hydrated lime from the Kelly Island Lime and Transport Company, the plaster of the United States Gypsum Company and sewer pipe from the Robinson Clay Products Company, with a full line of all kinds of lumber required for building purposes. Fred F. Romer, manager of this company, was the first man in this section of the state, seven years ago, to handle hydrate, and it was found to be so far superior to lime in bulk or barrel that he now handles only hydrated lime.

Mr. Romer said: "The increased demand from the surrounding farm districts here was one thousand barrels last year, and the increase for the previous four years has averaged seven hundred barrels each year. We have been here ten years. This year's business has been good, and I believe will be much better this fall."

### COLUMBUS.

The people of Columbus, Indiana, have shaken off the feeling of depression which existed for the past two years. Building operations have been fairly active this year, and there is much work in contemplation in putting up residences and making public improvements much needed.

Dunlop & Company.

J. R. Dunlop commenced business in Columbus, Indiana, in 1879, and tells that in those days he sold the imported German cement and very little of that; American cement was not in existence, and he said that contractors did not believe cement could be made in this country. "Look at us now, with an output of fifty millions of barrels, and a cement that is every bit as good as the unapproachable German cement of thirty years ago."

"The present firm of Dunlop & Company is a continuation of the old business," he continued. "Our office and yard are at the corner of Fifth and Jackson Streets. We handle United States, Medusa, Superior and Speed cements. The principal lime we handle is in bulk from Elizabethtown, a home product; lime in bulk, where it is for contract work, and in barrels for the trade, from the Mitchell Lime Company, and hydrate from the Western Lime Company, of Huntington, Ind.; plaster from the United States Gypsum and American Gypsum Plaster Companies. We have the best of facilities for handling these materials in Columbus, and notwithstanding the close competition and low prices, lower I believe than will be seen in years to come, feel happy in the thought that prospects look bright, that present conditions must change. We are doing a fair business this year and don't grumble."

Hege & Company.

The lumber firm of Hege & Company, in Columbus, Ind., was founded by Samuel Hege fifty years ago. He was a large contractor and bridge builder, building all the bridges in the southern section of the state.

The present firm of Hege & Company is composed of Charles Hege, succeeding his father, who died two years ago, and W. F. Kendall. Their office and yard are located at Sixth and Jackson Streets. A switch track from the Panhandle railroad runs into their yard, which gives them excellent facilities for handling lumber, cement and plaster. They carry Lehigh and Atlas Portland cements and plaster of the American Cement Plaster Company, of Lawrence, Kansas.

Mr. Kendall said: "We have found in our business the demand for cement has increased tenfold in four years, accounted for in its marvelous extended use in farming districts, cities and towns. Just one instance—the Tabernacle Christian Church, the largest in Columbus, is being remodeled and its large baptistry under the pulpit will be built of concrete. We sold ten barrels of cement to be used in this work. Concrete construction would not have been thought of for this baptistry four years ago."



# CEMENT

## Present Consumption Stupendous.

There has been a decided change in the cement situation in the last thirty days. The great number of orders for cement has put an entirely different complexion on the market.

The following little conversation on the telephone illustrates the point very well:

Manufacturer: "Hello! Yes, this is the Rosey Cement Company. Yes, yes. No, the market is going up. Yes, we can let you have it. When? Well, let's see." Turning to stenographer: "Let me have that sheet."

Consulting sheet and talking on phone: "Well, I can let you have one car but can't ship the rest for a week. We're up to the limit."

Dealer at other end of line evidently satisfied, but inquires the price.

The manufacturer says, "I'll have to raise you. Yes, yes. Well, I'll let it go at the old price this time, but remember, this is the last."

When the manufacturer is so far sold up that he has to consult his stock sheet and then tells a man he can't fill all his order, it would appear as if the situation was not a bad one. It will take a little time to adjust the price, but it will come.

Of course, there are a number of large dealers who have laid in heavy stocks anticipating the advance, but there are some who would not heed the advice given a month ago.

The manufacturer is already refusing to make contracts at the present prices for future shipments. This is the best evidence of the return of confidence.

Just here we would like to give the retailer in the small city a word of advice. Lay in your cement now. The railroads are already figuring with the cement companies and when their orders are placed there will be a scramble for cement. If you haven't a warehouse get one, and buy your cement now while you can get it.

The great number of gigantic projects which have been hanging fire for one reason or another are now coming out and every available barrel of cement will soon be taken.

Many of the mills are now sold right up to the hilt and one of the largest companies in the central West has already withdrawn their salesman from the road, as they can hardly handle what orders they have on hand now and what will naturally come to them.

In other words this company wishes to take care of its regular customers and realizes that with conditions improving every day the natural consumption will increase so rapidly that they will have difficulty before long in taking in any new business.

While prices have advanced very little, there will be sharp rises presently.

## Shipments Show Improvements.

L. W. Sibbald, secretary-treasurer of the Omega Portland Cement Company, Jonesville, Mich., writes: "We have been meeting conditions, as Mr. Hagar puts it, but we are forced to the free lunch counter occasionally. However, shipments with us show a great improvement within the last four weeks and this should stimulate prices. We are bound to receive the benefit later on."

## Plan New Cement Plant.

PHILADELPHIA, Pa., Sept. 9.—The American Cement Company is planning the immediate construction of a new plant at Norfolk, Va., to cost \$650,000, which will add 30 per cent to its capacity. The plant will be under the direct operation of the Norfolk Portland Cement Company, a subsidiary concern, of which Robert E. Griffith, of this city, is president.

## Cement Plant Is to Be Enlarged.

SALT LAKE CITY, UTAH, Sept. 12.—P. J. Moran has bought the controlling interest in the Utah-Portland Cement Company and the Salt Lake plant will be remodeled and improved and its capacity increased from 350 barrels a day to 1,200 barrels a day. New machinery has already been ordered and the plant will be made one of the best in the country, with every modern facility for turning out the best grade of Portland cement known to the commercial world.

## AT LAKE GEORGE.

### Cement Manufacturers Enjoy a Pleasant Out- out and Discuss the Rosy Prospects Right Ahead.

The regular quarterly meeting of the Association of American Portland Cement Manufacturers was held at the Sagamore Hotel at Lake George, N. Y., on September 14 and 15. The beautiful New York watering place was a fine setting for such a business conference. The attendance was not as large as on several of the same kind of occasions in the past, for the reason that the membership for the most part expected no more than routine matters to be handled, and the cement business of the country has taken on such an extraordinary boom that for very rush of business many of the manufacturers could not find time to be represented at the meeting. All those who were present cheerfully testified to the pronounced activity which has been developed within the last thirty or forty days, which really amounts to a rally all along the line.

President John B. Lober was not well enough to be present, and Vice-President E. M. Hagar was the chairman of all the meetings of the convention.

By invitation, the executive committee of the National Builders' Supply Association were present and accorded the floor in the evening meeting of September 14. President Frank S. Wright of Chicago was the spokesman and presented the affairs of his committee concisely and with becoming dignity. The committee from the National Builders' Supply Association consisted of Frank S. Wright, Chicago, president; James W. Wardrop, Pittsburg, secretary; J. C. Adams, Pittsburg; Walter Jahneke, New Orleans; James G. Lincoln, Boston; Charles Warner, Wilmington, Del.

Joint matters were discussed until the midnight hour, and then the cement manufacturers and the retailers' committee adjourned for refreshments and a talkfest in the most harmonious accord.

On Wednesday evening the stated banquet of the quarterly meeting was held, and on Thursday morning a number of the visitors availed themselves of the opportunity to sail around among the attractive resorts of Lake George by the long route in the motor boat.

There was only one criticism from the cement manufacturers' standpoint, namely: The fine hotel was built of wood entirely when it should have been built of cement instead.

## THE ATTENDANCE.

W. S. Mallory, Edison Portland Cement Company, Stewartsville, N. J.  
D. S. Hoover, Alama Cement Company, Wellston, O.  
A. F. Gerstell, Alpha Portland Cement Company, Easton, Pa.  
W. H. Harding, Complay Cement Manufacturing Company, Philadelphia, Pa.  
John A. Miller and Joseph Brobston, Dexter Portland Cement Company, Nazareth, Pa.  
George F. Bayle, Glens Falls Portland Cement Company, Glens Falls, N. Y.  
George G. Sykes, Lehigh Portland Cement Company, Allentown, Pa.  
A. W. Paige and A. J. Horner, Nazareth Cement Company, New York City.  
J. A. Setze, Northampton Portland Cement Company, New York City.  
William N. Beach and A. H. Alger, Pennsylvania Portland Cement Company, New York City.  
P. B. Beery, Sandusky Portland Cement Company, Sandusky, O.  
T. H. Dumary, Helderberg Cement Company, Albany, N. Y.  
Albert Moyer, Vulcanite Portland Cement Company, New York City.  
G. S. Bartlett, Western Portland Cement Company, Milwaukee, Wis.  
H. B. Green, Whitehall Portland Cement Company, Philadelphia, Pa.  
A. H. Crane, Jr., Union Sand & Material Company, St. Louis, Mo.  
W. J. Prentiss and George W. Hackett, Crescent Portland Cement Company, Pittsburg, Pa.  
W. P. Corbett, Alsen's American Portland Cement Company, New York City.  
Robert W. Lesley and R. E. Griffith, American Portland Cement Company, Philadelphia, Pa.  
Edward M. Hagar, B. F. Affeck, Morris Metcalf and B. H. Rader, Universal Portland Cement Company, Chicago.  
William G. Hartranft, William G. Hartranft Cement Company, Philadelphia, Pa.  
R. W. Hillis, Samuel H. French & Co., Philadelphia, Pa.  
L. V. Clark, Lawrence Portland Cement Company, Philadelphia, Pa.  
Percy H. Wilson, secretary Association of American Portland Cement Manufacturers, Philadelphia, Pa.  
Horace G. Kimball, Kent Mill Company, New York City.  
George W. Emerick, Philadelphia, Pa.  
L. J. Mench, San Francisco, Cal.  
Merrill Watson, Consolidated Expanded Metal Company, New York City.  
H. R. Collins, of the Fuller Lehigh Mill, Catasqua, Pa.  
Fred K. Irvine, Rock Products, Chicago.  
Frank S. Wright, Meacham & Wright, Chicago.  
James W. Wardrop, N. B. S. A., Pittsburg, Pa.  
J. C. Adams, D. J. Kennedy Company, Pittsburg, Pa.  
James G. Lincoln, Waldo Brothers, Boston, Mass.

W. C. Johnke, F. Johnke's Sons, New Orleans, La.  
Charles Warner, Charles Warner Company, Wilmington, Del.  
S. Dana Lincoln, Washington, D. C.

## NOTES OF THE MEETING.

Joe Brobston, Howard Green, Rader and Hillis played a tennis tournament in which Morris Metcalf and Wm. Beach assisted everybody who needed help. In fact, they won the game.

Now Corbett is a fisherman of distinction. All the fish he failed to catch on Tuesday afternoon were caught by Joe Brobston early Wednesday morning. Lake George is no longer a fishing resort. Horace Kimble firmly believes, however, that one or two small fish might be caught, for he is partial to little sizes, having become accustomed to fine grinding with his Mexacon mill.

It is alleged that there was a golf game of which Rader was to have been the referee, but he says that the game was called on account of darkness before the preliminaries of the tournament could be settled.

Robert W. Lesley was active in all the work and cordial in all the social numbers.

Louis Mench was there with his book on Reinforced Concrete Construction.

Percy Wilson, the able secretary, had made all the necessary preliminary arrangements, and he knows the specifications.

George Bartlett had a few new ones, which was to be expected, and he promptly adopted the story that Pap Prentiss had which is duly entitled, "Let's See Who's Here."

S. Dana (Abe) Lincoln, Washington, D. C., arrived a little late, but in plenty of time to make the convention duly official.

Well, the sum of the whole matter may be stated in these few words: The cement manufacturers observed that a great rush has been developed in the last thirty to sixty days and they feel very much encouraged about it.

## The Northwestern States Portland Cement Co.

MASON CITY, IA., Sept. 15.—A ROCK PRODUCTS man had a very pleasant visit at the general offices of the Northwestern States Portland Cement Company with the officers of that company. Sales Manager H. B. Hasbrouck in his hospitable manner extended every courtesy. Speaking of business, he said: "We are rushed to the limit of our capacity, and our sales force keeps the big mill grinding. The principal demand in this section comes from the dealer, and we make it a rule to sell only through him. The farmer is waking up to the possibility of cement and concrete, and we find him keen for information on this subject. I believe the farmer is the man who will soon be the greatest consumer of concrete."

A visit to the mill found Superintendent F. E. Smith busy and Chemist Geo. Diekmann keeping up the quality of Northwestern product. It is a busy place here. The quarry is on the property of the mill site, and the clay is brought from the fields about a mile from the plant. The company owns its own railroad and equipment to haul cars to the plant. A steam shovel in the quarry loads the cars, which are conveyed to the crusher house by two mountain climbing engines. The rock is crushed in the Gates crushers and conveyed to the storage or into the dry kilns, where it passes through the usual process until turned out the finished product.

Each department of this plant is in charge of a competent man especially trained for his particular place. This is one of the characteristics of W. E. Cowham, and is the system on which each mill under his supervision is operated. One of the large orders on which they are supplying Northwestern brand cement is the Mills building at Des Moines, Ia., for which J. C. Mardis is the general contractor.

## Cement Company Holds Annual Meeting.

LEEDS, ALA., Aug. 25.—The annual meeting of the board of directors of the Standard Portland Cement Company was held recently. Those present were: J. R. Hanahan, president; F. H. Lewis, general manager; Charles Daehlett, J. A. Hertz and J. F. Effinger. The large additions to the plant here have just been completed and put in operation. The plant now has a daily capacity of 1,200 barrels and employs 250 men. The total outlay of money represented in this mill is \$500,000. It is the third largest cement plant east of the Mississippi River and the largest in operation in Alabama. President Hanahan, whose home is at Charleston, S. C., was here several days inspecting the properties of the company and the new extensions. He expressed himself as being well pleased with the equipment in every department and the prospect for a prosperous operation in the future. The other members of the board who attended the meeting also expressed delight at the completeness of the new plant.

# Cement Statistics For the Year 1908.

The Department of the Interior of the United States Geological Survey, following its usual custom, has issued the complete statistics relating to the cement industry for the year 1908. These statistics are valuable as documentary evidence showing the character, amount and value of the cement manufactured during the year and comparisons with previous years. The figures reported by the various producers are accepted and used absolutely without change in the various tables of the report. Edwin C. Eckel had charge of the compilation of the report, excerpts of which follow:

Before taking up the statistics relating to the three kinds of cement separately, it is of interest to summarize the facts relative to the total cement production of the United States in 1908.

The total quantity of Portland, natural, and puzzolan cements produced in the United States during 1908 was 52,910,925 barrels, valued at \$44,477,653. As compared with 1907, whose production was 52,230,342 barrels, valued at \$55,903,851, the year 1908 showed an increase of 1.3 per cent in quantity, and a decrease of 20 per cent in value. The increase in quantity is the smallest ever recorded, and the heavy increase in value indicates the serious trade conditions which the cement industry encountered during 1908.

The distribution of the total production among the three main classes of cement is shown in the following table. For comparison the figures of 1906 and 1907 are also presented.

## Portland Cement.

The total Portland cement production in the United States in 1908 was 51,072,612 barrels, valued at \$43,547,679. As compared with the output of 1907, which was 48,785,390 barrels, valued at \$53,992,551, the figures reported for 1908 indicate an increase in quantity of 4.6 per cent and a decrease in value of 19.3 per cent.

In view of the trade conditions during the year, the matter for surprise is not that the increase in output was so small, but that there should have been any increase at all. When the total production is grouped by states, as in the table below, certain peculiarities of distribution of this increase become obvious; and when the reports of individual plants are examined, the matter becomes still more interesting. In the present place it can only be said that all of the older producing states, especially in the East, showed heavy decreases in output; that a relatively small amount of plants, mostly in the Middle West, reported very large increases as against 1907; and that the only really large producer to report an increase was the United States Steel Corporation.

## Production By States.

In the following table the Portland cement production has been grouped by states. For convenience in comparison, the production for 1907 is also presented in as nearly similar grouping as is possible.

Production, in barrels, and percentage of total output of Portland cement in the United States according to type of material used, 1898-1908.

Year.	Type 1. Cement rock and pure limestone.		Type 2. Limestone and clay or shale.		Type 3. Marl and clay.		Type 4. Slag and limestone.	
	Quantity.	Per-centage.	Quantity.	Per-centage.	Quantity.	Per-centage.	Quantity.	Per-centage.
1898.....	2,764,694	74.9	365,408	9.9	562,092	15.2		
1899.....	4,010,132	70.9	546,200	9.7	1,096,934	19.4		
1900.....	5,960,739	70.3	1,034,041	12.2	1,454,797	17.1	32,443	0.4
1901.....	8,503,500	66.0	2,042,200	16.1	2,001,200	15.7	164,316	1.3
1902.....	10,953,178	63.6	3,738,303	21.7	2,220,453	12.9	318,710	1.8
1903.....	12,493,694	55.9	6,333,403	28.3	3,052,946	13.7	462,930	2.1
1904.....	15,173,391	57.2	7,526,323	28.4	3,332,873	12.6	473,294	1.8
1905.....	18,454,902	52.4	11,172,380	31.7	3,884,178	11.0	1,735,343	4.9
1906.....	23,896,951	51.4	16,532,212	35.6	3,898,201	8.5	2,076,000	4.5
1907.....	25,850,085	53.0	17,190,687	35.2	3,608,598	7.4	2,129,000	4.4
1908.....	20,678,693	40.6	23,047,707	45.0	2,811,212	5.5	4,535,300	8.9

Production of Portland cement in the United States, 1870-1908, in barrels.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
1870-1879.....	82,000	\$246,000	1894.....	798,757	\$1,283,473
1880.....	42,000	126,000	1895.....	990,324	1,586,530
1881.....	60,000	150,000	1896.....	1,545,023	2,424,011
1882.....	85,000	191,250	1897.....	2,677,775	4,315,891
1883.....	90,000	193,500	1898.....	3,692,284	5,970,773
1884.....	100,000	210,000	1899.....	5,652,266	8,074,371
1885.....	150,000	292,500	1900.....	8,482,020	9,280,525
1886.....	150,000	292,500	1901.....	12,711,225	12,532,360
1887.....	250,000	487,500	1902.....	17,230,644	20,864,078
1888.....	250,000	487,500	1903.....	22,342,973	27,713,319
1889.....	300,000	500,000	1904.....	26,505,881	23,355,119
1890.....	335,500	704,050	1905.....	35,246,812	33,245,867
1891.....	454,813	967,429	1906.....	46,463,424	52,466,196
1892.....	547,440	1,153,600	1907.....	48,785,390	53,992,551
1893.....	590,652	1,158,138	1908.....	51,072,612	43,547,679
				325,567,395	

\* The figures for 1890 and prior years were estimates made at the close of each year, but are believed to be substantially correct. Since 1890 the official figures are based on complete returns from all producers.

## Rank of Producing States.

In 1906 and 1907 the leading cement-producing states ranked in the same order, as follows: Pennsylvania, New Jersey, Indiana, Michigan, Kansas, New York, Illinois, Missouri. In 1908, however, some very curious changes in rank occurred, owing to the decreases shown by the eastern states and Michigan, and the heavy increases reported from some of the Middle Western states. The order of production in 1908 was therefore as follows: Pennsylvania, Indiana, Kansas, Illinois, New Jersey, Michigan, Missouri, New York.

## Growth of the Portland Cement Industry, 1870-1908.

In the following table statistics are given covering the annual production of Portland cement in this country from the inception of the industry, in the early seventies, to the present day.

On examination of this table it will be seen that the industry showed a fair but not in any way remarkable rate of growth from its commencement in the seventies until 1895. At the latter date, however, a very striking development commenced, coincident, it may be noted, with the development of coal burning in the rotary kiln. This rapid rate of growth continued until 1907, when it was checked temporarily by the financial crisis of that year.

The phenomenal growth of the industry in this period is illustrated very strikingly in figure 1, where it is shown graphically from the years 1890 to 1908, inclusive. For comparison, the decline in the natural cement industry is plotted on the same diagram.

## Decline in Cement Prices, 1880-1908.

Perhaps the most striking feature connected with the Portland cement industry in this country has been the decline in cement prices during the last thirty years. This decline has, as a matter of fact, been as steady and as marked as the growth in annual output.

The following table gives the average price per barrel of Portland cement in bulk at the point of manufacture, derived from the official figures published annually by the Geological Survey. The price excludes the cost of the package, but includes packing-house labor:

AVERAGE PRICES PER BARREL OF PORTLAND CEMENT, 1870-1908.

1870-1880.....	\$3.00	1896.....	\$1.57
1881.....	2.50	1897.....	1.61
1882.....	2.01	1898.....	1.62
1883.....	2.15	1899.....	1.43
1884.....	2.10	1900.....	1.09
1885-1888.....	1.95	1901.....	.99
1889.....	1.67	1902.....	1.21
1890.....	2.09	1903.....	1.24
1891.....	2.13	1904.....	.88
1892.....	2.11	1905.....	.96
1893.....	1.91	1906.....	1.13
1894.....	1.73	1907.....	1.11
1895.....	1.60	1908.....	.85

## Production According to Raw Materials Used.

In the following table the production of Portland cement in the United States is classified according to the kinds of raw materials from which the cement is manufactured. The production is grouped as follows:

Type 1 includes cement produced from a mixture of argillaceous limestone ("cement rock") and pure limestone. This is the combination of materials used in all the cement plants of the Lehigh district of Pennsylvania and New Jersey, and also at several western plants.

Type 2 includes cement made from a mixture of comparatively pure limestone with clay or shale. This mixture is employed at many plants all over the United States.

Type 3 includes cement manufactured from a mixture of marl and clay. This type of mixture is used only in the States of Michigan, Ohio, Indiana and New York.

Type 4 includes Portland cement manufactured from a mixture of limestone and blast-furnace slag.

This table, brought up to date, shows a continuation of movements whose trend has been noted in earlier years—the decrease in the relative production from cement rock (type 1) and from marl (type 3), and the corresponding increase in the production from limestone (type 2) and from slag (type 4). The falling off in the relative output from marl is natural enough, and this relative decrease may be expected to continue. The decrease in the percentage produced from cement rock is due simply to the lessening comparative importance of the Lehigh district, and condition concerning which there is some discussion on a preceding page and concerning which it may be added here that this trend may be reversed in the near future. Two districts, containing cement rock of the Lehigh type but widely separated geographically from the Lehigh district itself, may reasonably be expected to become heavy producers within the next two or three years.

## Natural Cement.

The natural cement produced in the United States during 1908 amounted to 1,686,862 barrels, valued at \$834,509, as compared with an output of 2,887,700 barrels, valued at \$1,467,392, in 1907, a decrease in 1908 of 1,200,838 barrels, or over 41 per cent, in quantity, and of \$632,793, or over 43 per cent, in value.

## Puzzolan Cement.

Puzzolan cement, made by mixing blast-furnace slag with slaked lime, was manufactured during 1908 at a number of plants in the United States. The output reported for 1908 was 151,451 barrels, valued at \$95,468. This shows a heavy decrease when compared with the production reported for 1907, which was 557,252 barrels, valued at \$443,998.

There are at present at least ten plants equipped for the manufacture of puzzolan cement in the United States, though it is difficult to ascertain how many of these have been completely or partly dismantled. Of the ten plants constructed, the States of Ohio and Alabama contained two each, while Illinois, Kentucky, Maryland, New York, Pennsylvania and New Jersey had single plants. During 1908 four plants reported production to the Survey.

Production of Portland cement in the United States in 1907 and 1908, by States.

1907.				1908.			
State.	Producing plants.	Quantity (barrels).	Value.	State.	Producing plants.	Quantity (barrels).	Value.
Pennsylvania.....	22	20,393,965	\$19,698,006	Pennsylvania.....	17	18,254,806	\$13,899,808
New Jersey.....	3	4,449,896	4,738,516	Indiana.....	7	6,478,165	5,386,563
Indiana.....	7	3,782,841	4,757,860	Kansas.....	7	3,854,603	2,874,455
Michigan.....	14	3,572,668	4,384,731	Illinois.....	5	3,211,168	2,707,044
Kansas.....	5	3,383,925	4,240,358	New Jersey.....	3	3,208,446	2,416,000
Kentucky.....	1	3,186,925	3,320,243	Michigan.....	15	2,892,576	2,556,211
Missouri.....	2			Missouri.....	4	2,929,504	2,571,233
New York.....	9	2,290,955	2,433,918	California.....	4	2,480,100	3,268,199
Illinois.....	5	2,036,093	2,632,576	Washington.....	2	1,988,874	1,813,623
California.....	4	1,893,004	2,715,398	New York.....	7		
Washington.....	1			Ohio.....	8	1,521,764	1,305,211
Alabama.....	2	1,274,470	1,383,305	Iowa.....	1	1,205,251	1,176,499
Georgia.....	1			Kentucky.....	1		
Virginia.....	1			Tennessee.....	1		
West Virginia.....	1						
Ohio.....	9	1,151,176	1,377,155	Texas.....	2	917,977	924,033
Colorado.....	1	864,938	1,395,179	Oklahoma.....	2		
Utah.....	2			South Dakota.....	1	809,306	1,057,433
Arizona.....	1	534,534	915,301	Colorado.....	2	507,603	895,235
South Dakota.....	1			Arizona.....	1		
Texas.....	2			Utah.....	2		
				Maryland.....	1		
	94	48,785,390	53,992,551	Virginia.....	1	502,225	511,111
				Massachusetts.....	1		
				Alabama.....	2	310,244	274,995
				Georgia.....	1		
				98	51,072,612	43,547,679	

Total production of cement in the United States in 1906, 1907, and 1908, by classes.

Class.	1906.		1907.		1908.	
	Quantity (barrels).	Value.	Quantity (barrels).	Value.	Quantity (barrels).	Value.
Portland.....	46,463,424	\$32,466,186	48,785,390	\$53,992,551	51,072,612	\$43,547,679
Natural.....	4,056,797	2,423,170	2,887,700	1,686,862	1,686,862	834,509
Puzzolan.....	481,224	412,921	557,252	443,998	151,451	95,468
	51,001,445	35,302,277	52,230,342	55,903,851	52,910,925	44,477,653



Imports of Foreign Cement.

The following table shows the foreign cement imported into the United States during the years 1878 to 1908, inclusive. It is to be noted that, owing to the manner in which import statistics are grouped under existing tariff schedules, the quantities given include not only Portland cement, but all other hydraulic cements. The Portland cement, however, probably takes up at least 95 per cent of the total in each year.

IMPORTS OF FOREIGN CEMENT, 1878-1908, IN BARRELS.			
1878	92,000	1894	2,638,107
1879	106,000	1895	2,997,395
1880	187,000	1896	2,989,597
1881	221,000	1897	2,090,924
1882	370,406	1898	1,152,861
1883	456,418	1899	2,108,388
1884	585,768	1900	2,386,683
1885	554,396	1901	939,330
1886	915,235	1902	1,963,023
1887	1,514,095	1903	2,251,969
1888	1,855,504	1904	968,409
1889	1,740,356	1905	896,845
1890	1,940,186	1906	2,273,493
1891	2,988,313	1907	2,033,438
1892	2,440,654	1908	842,121
1893	2,674,149		

Exports.

The United States now possesses only a small export trade in cement, the quantity annually exported ranging usually between 1 per cent and 3 per cent of the domestic production. There seems to be excellent reasons for increasing this export trade as rapidly as possible, and it may soon become a more important feature of the industry.

Held Annual Meeting.

The stockholders of the Helderberg Cement Company, Albany, N. Y., held their annual meeting recently. Officers were elected as follows: Directors, T. Henry Dumary, Anthony N. Brady, Robert C. Pruyn, Frederick W. Kelley, James C. Farrell,

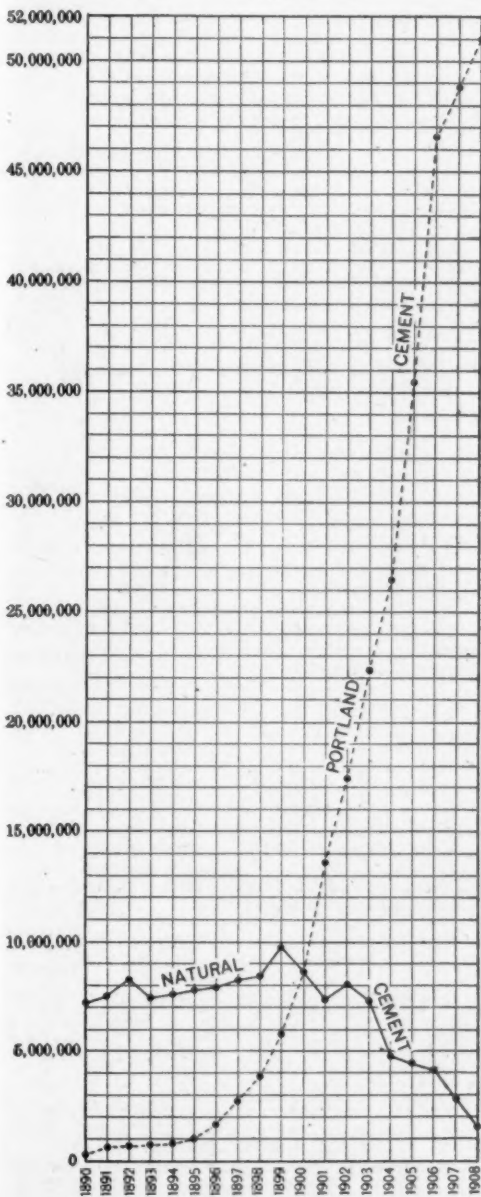


FIGURE 1.—Comparison of production of Portland and natural cement, 1890-1908.

Thomas E. Murray, Edward L. Pruyn, Charles H. Ramsey, James B. McEwan, Howard Van Rensselaer, Nicholas F. Brady and Frederic Pruyn; inspectors of election, Edward J. Hussey, Walter W. Batchelder and Samuel J. Haight.

Another Cement Merger.

TORONTO, CAN., Sept. 8.—A new cement merger, which welds into one company a number of important concerns which were not included in the big merger recently put through at Montreal, was consummated September 7 at a meeting of the various companies interested, held at the offices of J. R. Roaf, who will act as solicitor for the new organization. The company, which will be known as the Independent Portland Cement Company, Limited, will have a capital stock of \$10,000,000, the head office being at Toronto. Immediate application will be made for a charter, and as soon as it is obtained officers will be elected and operations commenced.

The companies which have already agreed to enter the merger, and their authorized capitalization, are as follows: Brant Portland Cement Company, Limited, of Brantford, \$500,000; Colonial Portland Cement Company, Limited, of Wiarton, \$800,000; Hanover Portland Cement Company, Limited, of Hanover, \$500,000; Imperial Cement Company, Limited, of Owen Sound, \$300,000; Ontario Portland Cement Company, Limited, of Paris, \$450,000; Bell's Lake Cement Company, Limited, of Markdale, \$500,000; Superior Cement Company, Limited, of Orangeville, \$500,000; Western Ontario Portland Cement Company, of Atwood, \$500,000, and St. Mary's Portland Cement Company, Limited, of St. Mary's, \$500,000. In addition to these companies several other concerns are expected to join the merger.

As will be seen all these companies are located in Western Ontario, and all draw their raw material from marl beds, instead of from rock.

New Cement Plant Nearly Ready.

LOS ANGELES, CAL., Aug. 25.—The new plant of the Golden State Portland Cement Company at Oro Grande, Cal., is practically completed and will soon be ready for operation. The management expects to take out one or two carloads of stockholders and others interested to witness the start. Chas. McGrane, the mill superintendent, is now at Oro Grande lining up the heavy machinery. The elevating and conveying apparatus is being placed rapidly. The plant is exceptionally well constructed.

Cement Company Fails.

FORT SCOTT, KAN., Sept. 14.—Involuntary bankruptcy proceedings have been filed by the bondholders of the Chanute Cement and Clay Products Company, operators of a large plant here, with branches at Bronson, Mich., and Akron, O. The petition places the assets of the company at \$250,000 and the liabilities at \$2,000,000.

The petition in bankruptcy alleges irregularity in the execution and filing of mortgage bonds as a means of preferring certain creditors. C. B. White, of Fort Scott, was appointed receiver.

The Warren Portland Cement Company, 15 Exchange Place, Jersey City, N. J., has been incorporated to manufacture Portland cement, artificial stone, building blocks, etc. Capital stock, \$1,500,000. I. R. Coles, John W. Melock and Mortimore L. Sweeney are the incorporators.

The Mobile Portland Cement & Coal Company, of Mobile, Ala., proposes to erect a large plant at St. Stephens, in Washington County. They will also develop their coal mines on the Black Warrior River. Dr. Otto Gerlach, a cement expert, has reported very favorably on the proposition.

The plant of the Crescent Portland Cement Company, at Crescentdale, a new station on the Pennsylvania Railroad, in western Pennsylvania, is about ready for operation. The plant was designed by the Curtin-Ruggles Engineering Company, of 39 Cortlandt Street, New York. W. J. Prentice is president; R. H. Hughes, vice-president and general manager; C. M. Hughes, treasurer, and the other directors are well known Pittsburgh business men. The mill will have a capacity of 3,000 barrels daily.

Plans have been completed for a series of four new buildings to be erected by the Universal Portland Cement Company at their plant at Universal, Pa. This will increase the capacity of the plant to 10,000 barrels daily.



Book Large Orders.

The Union Mining Company, Baltimore, Md., have recently secured an order from one of the largest metal manufacturing concerns in the East for fire brick linings for five stoves, 80x20, making the second order of this kind recently booked. Owing to the exceptional service being obtained from "Mount Savage" furnace linings recently installed these brick are now the subject of considerable inquiry on the part of furnace people.

Clay Product Plant Busy.

GRAND LEDGE, MICH., Sept. 5.—The Clay Product factory is unusually busy these days. Several large orders have been received and the plant is being run to its fullest capacity. One order is for seventy-five cars of 3½-inch conduit for Chicago.

Tile Works to Be Rebuilt.

NEW BRUNSWICK, N. J., Aug. 29.—The Menlo Park Tile Works, which were destroyed by fire two weeks ago, are to be rebuilt, and the reconstruction will begin in a short time. The property was well insured, the amounts almost covering the loss.

Will Erect Plant.

HAMDEN JUNCTION, O., Aug. 30.—Surveyors will at once begin the work of surveying for the construction of an immense brick plant at South Webster, to be known as the South Webster Clay Products Company, of which W. E. Tripp will be president and general manager and E. B. Blair secretary and treasurer. The initial capacity will be 150,000 per day.

Will Build New Kiln.

BLOOMFIELD, IND., Sept. 3.—The contract for the construction of four large kilns on the grounds of the Bloomfield Vitrified Brick and Tile Company has been awarded to Chas. E. Watts, of Brazil. Other improvements will be made to the plant.

Plasticity of Clays.

An explanation of what appears to be a satisfactory method by which workers in clay can accurately ascertain the plasticity of any given clay has just been published by the Geological Survey in a bulletin (No. 388) prepared by H. E. Ashley.

The plant of the Webster Paving Brick Company, Roanoke, Va., has been leased by C. Markley and the Exchange Lumber Company, of that city, and the manufacture of high-grade paving block will be undertaken at once. Mr. Markley will have charge of the enterprise.

J. M. Porter, Pittsburg, Pa., and other Pittsburg parties, will erect in the vicinity of New Cumberland, W. Va., a 100,000-daily-capacity plant for the manufacture of paving brick. E. M. Freese & Company, Galion, O., have the contract.

The Minneapolis Sewer Pipe Company has its plant nearly ready for operation in Hopkins, Minn. They have moved their office from the Security Bank Building to 729 Palace Building.

The sewer-pipe department of the Corona (Cal.) Pressed Brick and Terra Cotta Company has been very busy for the last month or two, and has enough work in sight to keep it going for some time. The latest contract is for a large lot of pipe for Mountain View, Cal.

The East End plant of the Harbison-Walker Company, Portsmouth, O., has resumed operations after the installation of a waste-heat drying system costing over \$7,000.

The Southern Clay Manufacturing Company, Birmingham, Ala., recently booked an order for 4,000,000 paving brick. This company employs 175 men and has a capacity of 30,000 per day.

The Harris Kaolin Company has been incorporated at Portland, Me., to deal in kaolin, clay, etc., with a capital stock of \$1,000,000. President, C. E. Eton; treasurer, C. G. Trott; clerk, J. E. Manter, all as above.

The Jeannette Brick and Stone Company, Jeannette, Pa., has been incorporated, with a capital stock of \$5,000.

# SAND AND GRAVEL

## GRAVEL WASHING

Reduced to a Science at the Plant of the Southern Gravel and Material Company.

Plans were started in September of last year by the J. C. Buckbee Company, of Chicago, for the gravel washing plant of the Southern Gravel and Material Company, at Brookhaven, Miss., and the plant was completed and placed in operation about January 15 of the present year. This being the largest as well as the most modern gravel washing plant in the South, it is of interest, first, because of these reasons, and again because of the completeness of the equipment and the general efficiency of the plant, its layout and the detail of the design.

The gravel pit and plant of the Southern Gravel and Material Company lies adjacent to the town of Brookhaven, Miss., some 129 miles north of New Orleans, La., and fifty-four miles south of Jackson, Miss., on the main line of the Illinois Central Railroad.

This deposit of gravel is one of the best in the South, presenting a face of about thirty feet in height and approximately a mile in length, and is unusual in that practically all of the bank-run will pass a 3-inch round hole screen. The gravel is very clean, as gravel occurs in nature, but like all gravel, contains a certain amount of clay and soil that must be removed to fit it for concrete work, road work, roofing, ballast, etc., and for this purpose a washing plant of 1,500 yards maximum daily capacity has been installed.

The gravel is excavated from the bank by a seventy-ton Atlantic steam shovel, which loads it into standard Rodger ballast cars for transportation to the washing plant, a standard saddle tank switching locomotive being employed to haul the cars to and from the shovel. The cars serving the shovel, on their arrival at the plant, run directly over a concrete gravel hopper at the foot of the main belt conveyor leading to the top of the washing plant. This hopper has a live capacity of forty cubic yards and serves as a storage pocket for the steady feed of raw gravel to the plant during the intervals pending arrival of cars from the shovel. By sinking the hopper in the ground the heavy grade usual on the hopper tracks of gravel plants is avoided, and the operations thereby facilitated as well as the cost lowered.

The gravel feeds steadily from the above mentioned hopper onto a 30" inclined belt conveyor, which transports and elevates it to the screens of the washing plant, some 65' above the ground level. The stream of gravel discharged from the head end of the belt conveyor divides and flows to two 36 and 54x72 Gilbert screens, having 3" round holes, the oversize from these screens being discarded to a spill pile at one side of the plant at present, for the reason that at this time, as stated above, practically all of the gravel passes this size screen.

Provision has been made for the installation of crushers adjacent to the power house, with a belt conveyor for returning the crushed gravel to the screens at any time, should future developments show a sufficient amount of large stone to make crushing necessary.

The undersize from the first screens flows to two Gilbert screens of the same dimensions, but provided



GENERAL VIEW BANK AND PLANT, SOUTHERN GRAVEL AND MATERIAL COMPANY.

with 1 1/4" round perforations, the oversize from these screens flowing to the first storage bins below the screens, while the undersize flows to two more Gilbert screens of the same size, but provided with 3/8" round perforations. The oversize from these screens flows to the second storage bin below the screens, while the undersize flows to the last two screens, which are of the Gilbert type and the same size as before, but are provided with 3/8" round perforations. The oversize from these screens flows to the third compartment of the storage bins, while the undersize flows to the settling boxes, where the coarse sand and pebbles are automatically extracted and discharged into the fourth compartment of storage bins, while the waste water of the plant, carrying the loam, clay and other foreign matter extracted from the gravel, flows away from the boxes through a large launder to the spill pond.

Water is first introduced at the head end of the belt conveyor in the chute diverting the gravel to the two first screens, and is subsequently introduced as a jet directed against the gravel in each of the screens.

The screens are set in two parallel rows, in a heavy framework above the bins and are driven by chain belting from a countershaft running through the center of the screen framework, which is, in turn, driven by chain belting from the head shaft of the belt conveyor. The head shaft of the belt conveyor is driven through single reduction spur gears from a countershaft, receiving power through an inclined American System rope drive, leading from the main driving shaft of the plant, carried on concrete piers outside of the power house below the belt conveyor trestle.

The storage bins of the plant and the screen framing are of the design originated some time since by the J. C. Buckbee Company, in which the bin walls are made of comparatively thin cribbing, supported and stiffened latterly by a heavy framework rising from foundations to the framework supporting the screens. This design permits the crib work walls to rise and descend with the loading of the bins and changes in the saturation of the bin walls, due to absorbing water from the gravel or drying out when empty, without in any way affecting the alignment of the machinery framework above the bins, and is much more economical in first cost than either straight crib work construction or any design of framed bins. When it is considered that a crib work bin the height of these will rise and fall as much as 6', under the varying conditions, it is regularly subjected to in the working of the plant, the necessity and advantages of the above design are at once apparent.

Eight loading gates, with counterbalanced drop chutes, are provided on either side of the bins for loading the washed gravel into railroad cars for shipment to market, the railroad tracks running

through on each side of the bins. The bins have a live capacity of 600 cubic yards, or approximately four hours' run of the plant, which is ample to care for the product of the plant during ordinary delays pending the arrival of cars from the railroad. A gallery extends entirely around the bins, just above the loading gates, from which the loader has ready access to all chutes and gates.

The power house is located to the left of the conveyor trestle, well back of the inside loading track, and is a wooden frame structure, covered with galvanized corrugated iron and provided with a large ventilator at the peak of the roof. The power house equipment consists of a 75 h. p. side crank slide valve engine, belted directly to the main lineshaft and furnished with steam by two 72"x18' horizontal return tubular boilers, set in brick and provided with duplex feed pumps, heaters, etc. Water is forced to the top of the washing plant by a Marsh pump of 500 gallons capacity per minute, which is located in the wing on the left end of the power house, and draws water through a suction line about 400 feet in length from a pond formed by damming a small creek running through the property.

This pump also fills a tank of 5,500 gallons capacity, supported by a steel tower forty feet above ground, which affords fire protection for the power house and shops, and also supplies water to the steam shovel and locomotive.

The product of this plant is used in the adjacent section of Mississippi, as well as in New Orleans and other larger cities within a radius of some 200 miles, for concrete work, roofing, road work, etc., and by the Illinois Central and other roads for ballast, and brings an excellent price by reason of being perfectly clean and uniformly sized.

The plant was built by the J. C. Buckbee Company, engineers, of Chicago, Ill., who have made a specialty for some years of gravel washing plants, and have constructed, in addition to the above, similar plants for the Chicago Gravel Company, Joliet Sand and Gravel Company and the Lake Shore Sand Company, all of Chicago; the Akron Gravel and Sand Company, Akron, Ohio, and F. M. Henry, of Minneapolis, Minn. They are also the engineers who constructed the great Dolese & Shepard Company's 6,000 yard stone crushing plant at Gary, Ill., which is the largest stone crushing plant in the world.

The Cleveland Sand and Mineral Company has been incorporated with a capital stock of \$10,000 by E. L. Frantz, Columbus, O.

The Empire Brick and Sand Company, Jersey City, N. J., has been incorporated to manufacture brick, tile and pipe, with a capital stock of \$50,000, by John S. Crump, Bayside, L. I.; Charles H. Stanton, T. Newell Pfeiffer, 42 Broadway, New York City.

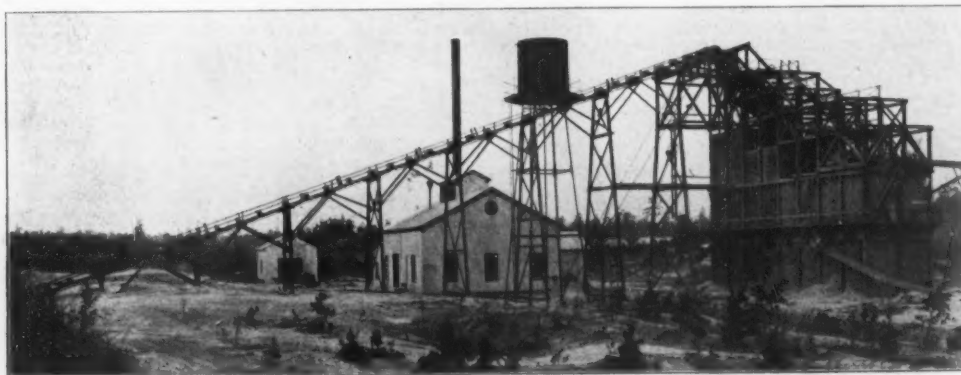
The Independent Sand and Gravel Company, 108 La Salle Street, Chicago, has been incorporated to deal in sand, gravel and building materials. Incorporators, Arnold B. Stoll, William H. Malon and Edward Liszewski.

The Keystone Sand and Gravel Company, Erie, Pa., has been incorporated with a capital stock of \$60,000.

The Fox River Sand and Gravel Company, Chicago, has been incorporated to deal in sand, gravel and crushed stone, mineral water and ice, by James Neely, Edward Neely and M. J. Sullivan. Capital stock \$100,000.

The Delevan Sand Company, Buffalo, N. Y., has been incorporated with a capital stock of \$25,000.

The Mahoning Sand and Stone Company has been incorporated at Youngstown, O., by David Tod, French Clinzan, Jacob Stambaugh, G. M. Booth and I. B. Miller. Capital stock \$10,000.



SHOWING PLANT FROM HOPPER TRACK, SOUTHERN GRAVEL AND MATERIAL COMPANY.



# Side Talk

## Steam Shovel and Locomotive Crane Combined

The accompanying illustrations show three views of a new type of revolving power shovel, combining two distinct and separate machines in one, viz: a locomotive crane for handling all kinds of structural work, either with a swivel hook or lifting magnet, a clamshell or orange peel bucket for unloading coal from cars or at stock piles, digging sand, gravel, marl or other soft materials, and a revolving power shovel equipped with the regulation dipper and dipper handle for excavating harder materials or for regular steam shovel work.

This wide range of work with this machine is made possible by the boom construction and the arrangement of the machinery on the car. The boom is thirty-six feet long, center to center, and can be raised or lowered to suit different classes of work by means of a cable which operates over sheaves at the point of the boom and is attached to a drum on the deck of the car. This feature is absolutely necessary for economy of operation when used as a crane, or with a clamshell or orange peel bucket, and is a great help in many classes of work when the machine is being used as a steam shovel. The boom is equipped with a snapper-shaft and pinions over which the dipper handle operates, and also a double drum for operating the clamshell or orange peel buckets, and a counterweight and line for holding the bucket in line with the boom when the bucket is being hoisted.

When being used as a steam shovel with dipper and handle it is possible to bring the shipper-shaft to a point within ten feet of the rail by simply lowering the boom. This enables the dipper to dig considerably below the rail and much lower than it could if the boom were stationary. It can also be raised sufficiently to bring the shipper-shaft eighteen feet from the rail, thus enabling the dipper to dump into cars or wagons on a high bank. This feature is especially desirable for cellar excavating, sewer trench digging, etc. When the boom is in its normal position, which is at an angle of about forty-five degrees, the shovel will make a cut forty-eight feet wide in a six-foot bank, has a clear height of lift of dipper with dipper door open of fourteen feet, and will dump twenty-six feet in any direction from the center. Such a large scope of action would be difficult to get in any other type of shovel of this size.

Another important feature in the construction of this machine is the cast steel truck frame. It is composed of one solid steel casting, practically indestructible, so designed and machine-finished as to accommodate either traction wheels or railroad trucks. The change from traction wheels to trucks, or vice versa, can be made right on the work in less than two hours.

The machinery is mounted on a car body seventeen feet four inches long by eight feet four inches wide. The upper body revolves on a cast steel turntable six feet six inches in diameter, which carries a wheel-path, machine-finished, over which the rollers operate. The racking which swings the car body is a separate steel casting, with straight-faced teeth, machined to fit and securely bolted to the turntable casting. The car body is equipped with strong cast steel swinging jack-arms, with a spread of eleven feet eight inches.

The machine is self-propelling in either direction at a speed of from 280 to 500 feet per minute on a level track. When used as a locomotive crane it has a lifting capacity of 16,000 pounds at a radius and 7,500 pounds at a thirty-eight-foot radius. When used as a steam shovel it has a digging capacity in ordinary material of from 400 to 600 cubic yards per days of ten hours. It carries a one-cubic yard dipper and a one- and one-half-yard clamshell or orange peel bucket.

The shovel shown in the illustrations is equipped with motors for electric power, direct current, 550 volts. The hoisting motor is seventy-five horsepower and the swinging motor is thirty horsepower. Both are of the railway type, series wound, with relay magnetic control, solenoid brake, resistance contractors, circuit breakers, etc. The shovel is propelled from the swinging motor and the boom is raised or lowered from the hoisting motor. When steam is used for power a fifty-four-inch vertical boiler, a set of double seven by six hoisting engines and a set of double five by six swinging engines are substituted for the motors and electrical equipment. Otherwise the machinery remains practically the same.

This machine was built by the Vulcan Steam Shovel Company, Toledo, O., for the Winona Interurban Railway Company, Warsaw, Ind., and will be used by them for digging gravel ballast, grading and for handling material in the yards.

## Hendrick's Commercial Register of the United States.

The adage, "time is money," may have been familiar to the business men of an earlier day. The present generation has used it as a sign and a symbol for hustling, but doubtless the coming generation will revise this saying and add the word "big," since as affairs are on an ascending scale time is becoming increasingly valuable. This being the case, all appliances, methods and books which are calculated to conserve this valuable asset are entitled to the consideration of the busier of manufacturers and merchants—those who realize the importance of the adage referred to above.

In this connection we desire to call the attention of our readers to a recent publication—Hendrick's Commercial Register of the United States for buyers and sellers. It is especially devoted to architectural, engineering, electrical, mechanical, railroad, iron, steel and kindred industries and contains over 350,000 names and addresses of American manufacturers, classified under 35,774 classifications. The mere mention of these features indicates at a glance the comprehensive character of this valuable classified directory of the lines we have enumerated above and also of many others.

## Ten Business Commandments.

The Lehigh Portland Cement Company, Allentown, Pa., have issued a neat little booklet, in which they enumerate the ten business commandments and the "Eleventh" as Lehigh would have it:

- 1st. Thou shalt not wait for something to turn up, but thou shalt pull off thy coat and go to work, that thou mayst prosper in thy affairs and make the word failure spell success.
- 2d. Thou shalt not be content to go about thy business looking like a bum, for thou shouldst know that thy personal appearance is better than a letter of recommendation.
- 3d. Thou shalt not try to make excuses, nor shalt thou say to those who chide thee, "I didn't think."
- 4th. Thou shalt not wait to be told what thou shalt do, nor in what manner thou shalt do it, for thus may thy days be long in the job which fortune hath given thee.
- 5th. Thou shalt not fail to maintain thine own integrity, nor shalt thou be guilty of anything that will lessen thy good respect for thyself.
- 6th. Thou shalt not covet the other fellow's job, nor his salary, nor the position that he hath gained by his own hard labor.
- 7th. Thou shalt not fail to live within thy income, nor shalt thou contract any debts when thou canst not see thy way clear to pay them.
- 8th. Thou shalt not be afraid to blow thine own horn, for he who failest to blow his own horn at the proper occasion findeth nobody standing ready to blow it for him.
- 9th. Thou shalt not hesitate to say "No" when thou meanest "No," nor shalt thou fail to remember

that there are times when it is unsafe to bind thyself by a hasty judgment.

10th. Thou shalt give every man a square deal. This is the last and great commandment, and there is no other like unto it. Upon this commandment hangs all the law and the profits of the business world.

11th. Thou shalt not dream or idealize about things abstract. But thou shalt deal with things concrete. Pin thy faith to that which is real and make the foundation and the superstructure of earthly buildings of that best of all building materials—Lehigh Quality.

## Ricketson Colors Used Extensively.

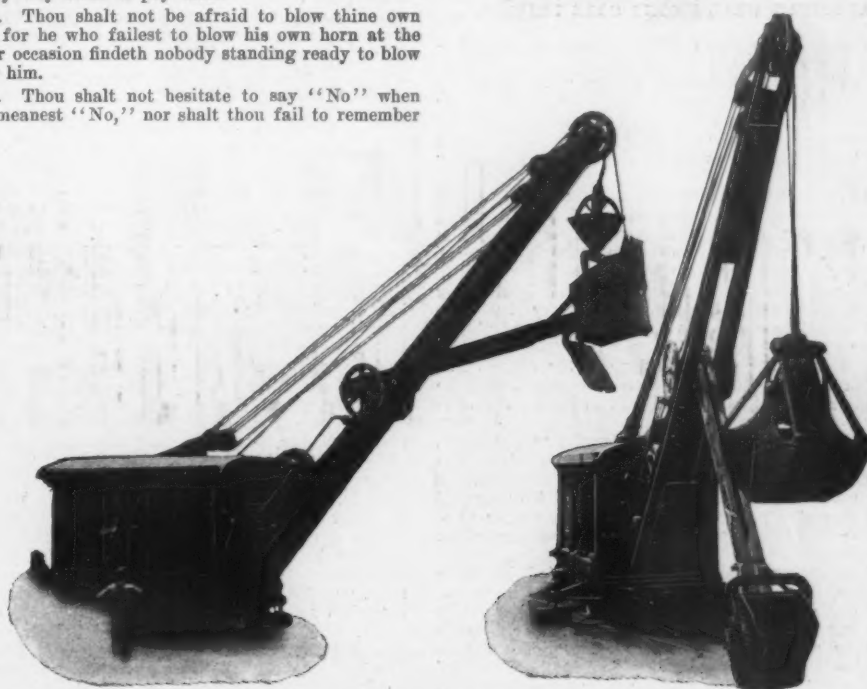
A pleasing report has just reached us from a very reliable source. This report seems to point to a period of prosperity in store for the country. The Ricketson Mineral Paint Works, with headquarters in Milwaukee, have been manufacturing their famous "Never Fade" mineral colors for over twenty years. The quality of their products has won for them an extensive trade in all parts of the United States. They report a large increase in advance sales and general business.

The Ricketson colors, which come in all standard shades and are backed by the famous guarantee slogan, "They Never Fade," have become almost a standard of excellence, and certainly the numerous calls for goods of this staple nature seem to point to a healthful normal growth.

## The Universal Crusher.

I. L. Mitchell, general manager of the Eureka Stone and Ore Crusher Company, Cedar Rapids, Ia., when seen by the ROCK PRODUCTS representative said that business with them is good. Last week they sold seven crushers. They are now doing a nice export business and he had a number of inquiries on his desk from South America. The company is now building its new factory, which will be ready October 15. It is of concrete, with brick walls. Here they will do the manufacturing and shipping. All the machinery used will be electrically driven by individual motors. The building is 60'x140', two stories high. They have a track from the railroads into the yard so that cars are easily loaded.

Adamant Plaster Board represents the highest development in plaster boards—the culminating result of all plaster board experience to date. It comes in sheets 32"x36", and combines all the good features to be found in all other boards. The plaster used is wood fiber plaster, instead of stucco, which accounts for its remarkable toughness and elasticity. The plaster ingredient is thoroughly mixed with water, thus securing a perfect "set," which means added strength and the closest possible bond between the plaster and the paper. The wood fiber plaster makes an ideal nailing surface, and the unequalled strength



COMBINED LOCOMOTIVE CRANE AND STEAM SHOVEL, VULCAN STEAM SHOVEL COMPANY, TOLEDO, O.

of the board practically eliminates breakage in shipping.

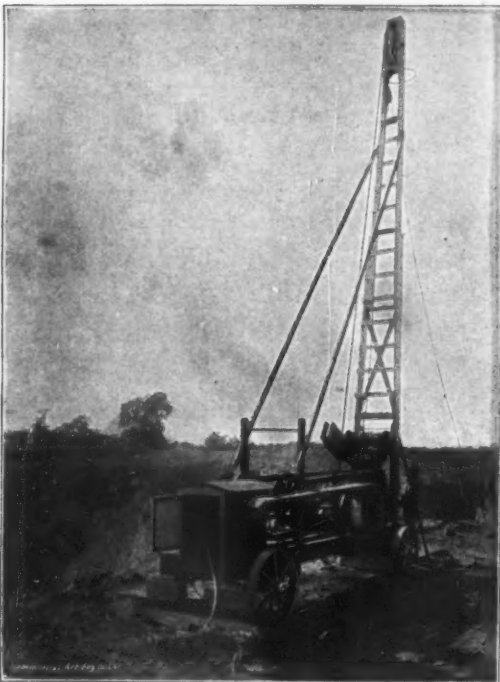
The United States Gypsum Company are prepared to ship this product in mixed cars with plaster.

### A Twenty-Two Inch Core.

Some interesting examples of core drilling by the American Well Works, Aurora, Ill., are reported by this concern as follows:

In regard to this, we wish to say in advance that there have been very few holes cored in the United States of 22" in diameter. This work was done at the Nashville Gas Company's plant, at Nashville, Tenn. These people are building a new, up-to-date gas producing plant. The National Elevator Company, of Cincinnati, O., contracted to put in two powerful hydraulic elevators, which are used for elevating coal into large hoppers, which are erected in the building, at an elevation of 45' above the floor level.

The work of boring these holes was first given to a contractor, but as he failed to commence the work, and the building was in a fair way to be finished without the elevators, the National Elevator Company were compelled to undertake the work themselves. They came to us for advice, and we sold them a large 22" rotary coring machine, built with special hoist-



AMERICAN WELL WORKS CORE DRILLER.

ing device, by means of which no other hoisting machinery was required.

The elevator shafts were 9' square, which gave very little room to install machinery. Our machine was placed in position on timbers, and centrally located in the shaft. It was driven by a 10 h. p. engine belted to a line shaft, which was coupled to our rotary coring machine.

The limestone was found about 5' from the surface and continued to the total depth, which was about 45'.

The cutting was done at an average speed of 10" per hour, maximum speed being approximately 14" per hour. The cores were lifted in sections from 2' to 7' in length, the largest of which weighed more than 2,200 pounds. It was very necessary that these holes should be absolutely round, straight and plumb, as the cylinders for the plunger elevators were 21" in diameter. The work was done to the entire satisfaction of the National Elevator Company, and the cylinders were placed in the wells without any difficulty.

The cores were lifted by our special core grapple, which is so designed that it can be extended down into the slot, which is 1" wide between the core and the rock wall. It is operated by a line of 3" pipe and by means of a powerful screw operating on the gripping device, and a powerful hold can be secured on rock cores.

These coring machines can be supplied by us in all sizes, from 2" up. The cutting is done by means of the rotary motion of the core barrel, in connection with our adamantite or chilled shot. The cutting is done by abrasion. The rotary motion of the core barrel which, in this case, was 22" in diameter, 14' long, cuts the circular slot down into the limestone, leaving a column of stone standing in the center,

which is called a core, and which is afterwards lifted out, as above stated.

Most people think that a material which is called a roofing is of course waterproof. As a matter of fact ordinary ready roofings are only waterproof for a little while, and do not really become roofs at all until they are painted. Most ready roofings when new have a coat of paint which has been applied at the factory, and when the paint wears out it must be promptly renewed or the manufacturers' guarantee will not hold.

An up-to-date roofing like Amatite has a surface of pitch and mineral matter which is absolutely proof against water. The pitch in Amatite Roofing is in two good thick layers. On account of the oily nature of pitch, water has no effect upon it, and accordingly Amatite Roofing needs no paint whatever and can be left out in rain and snow and sun year after year without any attention or care.

Despite this peculiar surface, Amatite is just as easy to lay as any other roofing and does not cost any more.

A sample of Amatite can be obtained free on request to nearest office of the Barrett Mfg. Co., New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburgh, Cincinnati, Kansas City, Minneapolis, New Orleans.

The Aetna Powder Company have opened a branch office at 33 North High Street, Columbus, O. Madison Whiteside, who has represented them for many years, will have charge of the office and look after their trade in Ohio, Pennsylvania and West Virginia. This arrangement in connection with their storehouses near Columbus and at other points, will enable them to give prompt service to their trade in the above territory.

### The Hercules Prize Contest.

Users of "Hercules" concrete block machines should not forget the prize contest now being carried on by the Century Cement Machine Company, of Rochester, N. Y. Five cash prizes will be awarded for the five best examples of concrete block construction.

Parties who have erected any buildings with "Hercules" blocks, or if blocks have been used in any buildings that you feel would appeal to builders generally, write the Century Cement Machine Company, 288-298 St. Paul Street, Rochester, N. Y., for information relative to their prize contest.

Every maker of "Hercules" stone should avail themselves of this opportunity to not only secure a prize, but to bring before the building public generally the finer examples of their work, and in this way assist in upbuilding the block industry.

Prizes will be awarded at the next meeting of the National Association of Cement Users to be held in Chicago, February 18 to 26, 1910, so it will be well to act promptly.

### Secure Contracts For Concrete Buildings.

The Turner Construction Company, 11 Broadway, New York City, have recently been awarded the general contract for a reinforced concrete factory building for John F. Galvin, East Avenue and Thirteenth Street, Long Island City. This building will be 200'x100' and six stories and basement in height. William Higginson, architect. Work will be undertaken at once.

They have also just been awarded the contract for the new factory building for the Royal Baking Powder Company, Kent Avenue and Morton Street, Brooklyn. This building will be of reinforced concrete throughout, 216'x53' and six stories high. Benjamin Finkensieper, architect.

### New Firm at Cedar Rapids.

CEDAR RAPIDS, IA., Sept. 14.—Thomas Kauffman has organized the Kauffman Cement Novelty Company here and is now operating the plant located at B Street and Chicago and North-Western Railway. The company has two buildings on their property, one is for storage purposes, the other for the manufacturing end of the business.

They have a number of concrete moulds and are making blocks, porch columns, balustrade posts, etc. They contract this class of work. In making concrete they mix the sand, gravel and cement with hydrated lime for two purposes: to waterproof and to lighten the color of the concrete.

The storage house is near the side track, so that cars can be easily unloaded. It is divided into four compartments—one for the crushed rock, one for sand, one for cement and the other for various other materials required.

Mr. Kauffman is an experienced builder and contractor and was for a number of years at Kankakee, Ill., in the cut-stone business. He has a contract now for the exterior cement plaster work on a residence which is now under way.

## CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion ..... 25 cents a line  
For two insertions ..... 45 cents a line  
For three insertions ..... 60 cents a line

Eight words of ordinary length make one line.

Heading counts as two lines.

No display except the headings can be admitted. Remittances should accompany the order. No extra charges for copies of paper containing the advertisement.

### EMPLOYEES WANTED

#### WANTED.

If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

#### FIRST CLASS MAN

as superintendent of Gravel Plant near Chicago. State experience and where you have worked.

Address 716, care of Rock Products.

### EMPLOYMENT WANTED

#### WOULD LIKE A POSITION

as manager or traveling salesman of a plaster plant. Experienced in all lines of building material, etc. Best of references can be furnished.

Address BOX 720, care of Rock Products.

#### AS MANAGER OR TRAVELING SALESMAN

of Wall Plaster Plant. Experienced in both lines, also in cement, lime, plaster, stucco and building material lines. Best references.

Address BOX 715, care of Rock Products.

### MACHINERY FOR SALE

#### FOR SALE.

One No. 1 Sturtevant mill, never been used. Will sell at cost. Address

BOX 717, care of Rock Products.

#### GOOD BARGAIN.

##### For Sale:

Three H. P. gasoline engine.  
One 30 in. roller.  
No. 3 Gates crusher, refitted at factory.  
One 8x24 Jeffrey pulverizer, new.  
One 10 H. P. Rumely traction engine.  
One bucket pump, 12 feet high.  
One short turn three-ton wagon.  
One set derrick irons.

Address BOX 718, care of Rock Products.

#### WILL SELL AT A BARGAIN

one No. 2 Sturtevant Mill Company's "Open Door" rotary crusher. In fine condition. Used only thirty days. Address

BOX 719, care of Rock Products.

#### NO. 1 STURTEVANT MILL,

New, never used, for sale at cost f. o. b. cars Genoa, O.  
Address CRAWFORD & TARBELL,  
46 Colonnade Bldg.,  
Toledo, O.

#### CRUSHER FOR SALE.

Gates No. 4 Gyratory, in fine condition. Cheap.  
R. P., BOX 2, Sta. A., Cincinnati, O.

#### ENGINES AND BOILERS FOR SALE.

Engines—Corliss, Automatic and Throttling, all sizes from 1 to 500 H. P.  
Boilers—Horizontal, Portable and Vertical, all sizes from 1 to 200 H. P.  
Pumps, Heaters, Tanks, Sawmill and General Machinery.

Write for our prices on your requirements.  
THE RANDLE MACHINE CO.,  
1745 Powers St., Cincinnati, O.

#### FOR SALE.

One Allis-Chalmers portable No. 1 Style D Gates crusher, with 25 H. P. Fairbanks & Morse gasoline engine, all belting, shafting, pulleys, circulating tanks, pipe fittings; painted and erected on 40,000-pound flat car. Present location, Leesport, Pa. For further information address COMMONWEALTH ROOFING CO., 17 Battery Place, New York, or Warren-Ehret Company, Land Title Building, Philadelphia, Pa.



**ENGINES AND BOILERS FOR SALE.**

Engines—Corliss, Automatic and Throttling, all sizes from 1 to 500 H. P.  
Boilers—Horizontal, Portable and Vertical, all sizes from 1 to 200 H. P.  
Pumps, Heaters, Tanks, Sawmill and General Machinery.  
Write for our prices on your requirements.

THE RANDLE MACHINE CO.,  
1745 Powers St., Cincinnati, O.

**FOR SALE**

One Allis-Chalmers portable No. 1 Style D Gates crusher, with 25 H. P. Fairbanks & Morse gasoline engine, all belting, shafting, pulleys, circulating tanks, pipe fittings; painted and erected on 40,000-pound flat car. Present location, Leesport, Pa. For further information address COMMONWEALTH ROOFING CO., 17 Battery Place, New York, or Warren-Ehret Company, Land Title Building, Philadelphia, Pa.

**FOR SALE.**

One Allis-Chalmers, Portable No. 1, style D, Gates crusher, with 25-h.p. F. & M. gasoline engine, all shafting, pulleys, belting, pipe fittings, painted and erected on forty thousand pound flat car. Address  
BOX 713, care ROCK PRODUCTS.

**FOR SALE.**

1—3 H. P. Gasoline Engine.  
1—18x24 Jeffrey Pulverizer (new).  
1—No. 3 Gates Crusher refitted at factory.  
2—30-in. gauge steel frame car trucks.  
1—set derrick irons.  
1—10 H. P. Rumely Traction Engine.  
1—short turn 3-ton wagon.  
1—bucket pump 12-ft. high.  
1—30-in. Blower.  
1—D. 24 Sergeant drill.  
Address 714, Care of Rock Products.

**FOR SALE.**

One Ingersoll-Rand Imperial air compressor, steam driven 536 cubic feet, running condition. Also one No. 5 Austin crusher.  
One Williams mill.  
Address W. L. Fergus & Co., 1500 Fisher Bldg., Chicago, Ill.

**STURTEVANT ROTARY CRUSHER**

No. 2 Sturtevant Mill Company's "Open Door" Rotary Crusher. Used less than 30 days on graphite ore; a fine machine and a bargain. Address  
G. W. B., 1222 Stephen Girard Bldg., Philadelphia, Pa.

**ARTHUR KOPPEL CARS**

Four 1½-ton capacity, side dump steel cars, 24' gauge. Used about 30 days; fine condition. Cost \$97. Sell for \$65 cash each; a bargain. Address  
G. W. B., Stephen Girard Bldg., Philadelphia, Pa.

**BUSINESS OPPORTUNITIES****LIME AND STONE WORKS FOR SALE**

Plant located in Georgia. Has been in continuous operation over forty years. An inexhaustible mountain of finest Dolomite limestone. Capacity, 450 barrels lime daily. Rock crushing plant, modern and new. Capacity, eight cars daily. Address  
W. M. HARDY, Rome, Ga.

**LIME PLANT FOR SALE.**

Located in Georgia. In operation over forty years. Capacity, 450 barrels lime daily. Modern and new. Address  
BOX 700, care ROCK PRODUCTS.



# Leviathan Belting

**MAIN BELTING COMPANY,** Market and Randolph Sts.  
CHICAGO, ILLINOIS

Philadelphia

New York

Boston

Buffalo

Pittsburg



The Buckeye Fire Clay Co.

Manufacturers of

Sewer Pipe, Flue Linings, Chimney  
Tops, Fire Brick, Grate Tile, Ground  
Fire Clay, Wall Coping, Etc.

UHRICHSVILLE, .. OHIO

HIGH GRADE

## FIRE BRICK

For Cement Works, Lime Kilns, Cupolas, Steel and Iron  
Works of every description.

**LOUISVILLE FIRE BRICK WORKS,** Highland Park, Ky., P. O.  
Incorporated.

## BOOKS FOR THE TRADE

**Architects and Engineers**

**Practical Reinforced Concrete**  
H. B. Andrews. Price \$2.00.  
**Analysis of Elastic Arches of Steel, Masonry and Reinforced Concrete**  
Joseph W. Balet. Price \$3.00.  
**Theory of Steel-Concrete Arches and Vaulted Structures**  
Wm. Cain. Price \$0.50.  
**Concrete Country Residences**  
Price \$1.00.  
**Graphical Handbook for Reinforced Concrete Design**  
John Hawkesworth, C. E. Price \$2.50.  
**Architects' and Engineers' Handbook of Reinforced Concrete Construction**  
L. J. Mensch. Price \$2.00.  
**Concrete and Reinforced Concrete Construction**  
Homer A. Reid. Price \$5.00.  
**Theory and Design of Reinforced Concrete Arches**  
Arvid Reuterdaahl. Price \$2.00.  
**Treatise on Concrete, Plain and Reinforced.**  
F. W. Taylor and S. E. Thompson. Price \$5.00.  
**Concrete Engineers' and Contractors' Pocketbook**  
Wm. F. Tubening. Price \$1.00.  
**Principles of Reinforced Concrete Construction**  
F. E. Turneure and E. R. Maurer. Price \$3.00.  
**Concrete Steel**  
W. N. Twelvetrees. Price \$1.90.  
**Handbook on Reinforced Concrete**  
F. D. Warren. Price \$2.50.  
**General Specifications for Concrete Work as Applied to Building Construction**  
Wilbur J. Watson. Price \$0.50.  
**American Engineering Practice in the Construction of Rotary Portland Cement Plants**  
B. B. Lathbury and C. Spackman. Price \$2.00.

**Cement and Lime Manufacturers**

**Manufacturer of Hydraulic Cement**  
A. V. Bleininger. Price \$1.25.  
**Limes, Cements and Mortars, Cements, Mastics, etc.**  
G. R. Burnell. Price \$0.60.  
**Portland Cement; its manufacture, testing and use**  
David B. Butler. Price \$5.00.  
**Instructions to Inspectors on Reinforced Concrete Construction**  
Geo. P. Carver. Price \$0.50.  
**Lime, Mortar and Cement**  
A. I. Dibbin. Price \$2.00.  
**Cements, Limes and Plasters**  
Edwin G. Eckel. Price \$6.00.  
**Practical Treatise on Limes, Hydraulic Cements and Mortars**  
Gen. Q. A. Gilmore. Price \$4.00.  
**Mortars, Plasters, Stuccos, Concretes, Portland Cements and Compositions**  
F. Hodgson. Price \$1.50.  
**Experimental Researches upon the Constitution of Hydraulic Mortars.**  
H. LeChâtelier. Price \$2.00.  
**Concrete Factories**  
Robert W. Lesley. Price \$1.00.  
**Portland Cement; Composition**  
Richard K. Meade. Price \$3.50.  
**The Constitution of Hydraulic Cements**  
S. B. Newberry. Price \$0.50.  
**Manufacture of Concrete Blocks**  
Wm. M. Torrance and others. Price \$1.50.  
**Practical Cement Testing**  
W. Purves Taylor. Price \$3.00.  
**Notes on the Testing and Use of Hydraulic Cement**  
Fred P. Sutcliffe. Price \$1.00.  
**Calcareous Cements**  
G. R. Redgrave and Charles Speckman.  
"Portland Cement from a Financial Standpoint"  
By Edwin C. Eckel C. E. Price \$2.00.  
"Plastering—Plain and Decorative"  
By Millar. Price \$7.50.

**Cement Users**

**Foundation and Concrete Works**  
E. Dobson. Price \$0.60.  
**The Uses of Hydraulic Cement**  
Frank Harvey Eno. Price \$1.00.  
**Portland Cement for Users**  
Henry Faija and D. B. Butler. Price \$1.20.  
**Cements, Mortars and Concrete**  
Myron C. Falk. Price \$2.50.  
**Reinforced Concrete**  
W. H. Gibson and W. L. Webb. Price \$1.00.  
**Concrete System**  
F. B. Gilbreth. Price \$5.00.  
**Hand Book of Cost, Data**  
Halbert P. Gillette. Price \$4.00.  
**Concrete Construction**  
H. P. Gillette and C. S. Hill. Price \$5.00.  
**Cement Workers' and Plasterers' Ready Reference**  
H. G. Richey. Price \$1.50.  
**Notes on Testing and Use of Hydraulic Cement**  
Fred P. Spalding. Price \$2.00.  
**Reinforced Concrete**  
A. W. Buel and C. S. Hill. Price \$5.00.  
**Concrete**  
Edward Godfrey. Price \$2.50.  
**Reinforced Concrete**  
C. F. Marsh and Wm. Dunn. Price \$7.00.  
**Practical Treatise on Foundations**  
W. Patton. Price \$5.00.  
**Concrete**  
Thomas Potter. Price \$3.00.  
**Cement and Concrete**  
Louis C. Sabin. Price \$5.00.

**ROCK PRODUCTS, 355 Dearborn Street, CHICAGO**

## CLASSIFIED BUSINESS DIRECTORY

## BAGS.

Urschel Bates Valve Bag Co.  
West Jersey Bag Co., The.

## BAG PATCHER—CEMENT.

Little Co., C. H.

## BALL MILLS.

Aising, J. R., Eng. Co.  
Power & Mining Mch. Co.

## BELTING.

Chicago Belting Co.  
Gandy Belting Co.  
Main Belting Co.

## BRICK.

Harbison-Walker Refractories Co.

## BUCKETS, DUMPING AND GRAB.

Atlas Car & Mfg. Co.

## BURR STONES.

Charles, J. M.

## CEMENT BRICK MCHY.

Bartlett, C. O., & Snow Co.  
Martin-Henry Brick Machine Mfg. Co.  
Peerless Brick Machine Co.

## CEMENT HYDRAULIC.

Carolina Portland Cement Co.  
Fowler & Pay.  
Utica Hydraulic Cement Co.

## CEMENT MCHY.

Aising, J. R., Eng. Co.  
Cummer, F. D., & Son Co.  
Kent Mill Co.  
Power & Mining Mch. Co.  
Ruggles-Coles Eng. Co.

## CEMENT, PORTLAND.

American Cement Co.  
Alma Portland Cement Co.  
Alpha Portland Cement Co.  
Atlas Portland Cement Co.  
Bartlett Co., The.  
Carolina Portland Cement Co.  
Castalia Portland Cement Co.  
Chicago Portland Cement Co.  
De Smet, Geo. W.  
Dexter Portland Cement Co.  
Dixie Portland Cement Co.  
Edison Portland Cement Co.  
French, Samuel H., & Co.  
Goetz, Charles W., Lime & Cement Co.  
Hartman, Wm. G., Cement Co.  
Ironport Portland Cement Co.  
Kosmos Portland Cement Co.  
Lehigh Portland Cement Co.  
Marquette Cement Mfg. Co.  
Mecham & Wright Co.  
Maryland Portland Cement Co.  
Northwestern States Portland Cement Co.  
Oklahoma Port. Cement Co.  
Phoenix Cement Co.  
Penn Allen Portland Cement Co.  
Pennsylvania Cement Co.  
Peninsular Portland Cement Co.  
Sandusky Portland Cement Co.  
Superior Portland Cement Co.  
Universal Portland Cement Co.  
United Kansas Portland Cement Co.  
Warner, Chas., Co.  
Western Lime & Cement Co.  
Wolverine Portland Cement Co.

## CLAY PRODUCTS.

Buckeye Fire-Clay Co.  
Western Lime & Cement Co.

## CLAYWORKING MCHY.

American Clay Working Mch. Co.  
Bartlett, C. O., & Snow Co.  
Cummer, F. D., & Son Co.

## CONCRETE BLOCK MCHY.

Anchor Concrete Stone Co.  
Century Cement Mch. Co.  
Concrete Stone & Sand Co.  
Perfection Block Mch. Co.  
Pettjohn, The, Co.  
Simpson Cement Mold Co.

## CONCRETE MIXERS.

Cement Tile Mch. Co.  
Kent Mch. Co.  
Marsh Co., G. C.  
Svenson-Shuman Mch. Co.  
Williams Contractors' Supply Co.

## CONCRETE BEADS.

Carolina Portland Cement Co.

## COLORINGS, BRICK AND MORTAR.

Chattanooga Paint Co.  
Clinton Metallic Paint Co.  
Ricketson Mineral Paint Works.  
Williams, C. K., & Co.

## CONCRETE REINFORCEMENTS.

American Steel & Wire Co.

## CONTRACTORS' EQUIPMENTS.

The Pierce-Walton Co.

## CONVEYERS.

Austin Mfg. Co.  
Bartlett, C. O., & Snow Co.  
Caldwell, H. W., & Sons Co.  
Ersham, J. B., & Sons Mfg. Co.  
Power & Mining Mch. Co.

## CORNER BEAD—STEEL.

Sharon Steel Hoop Co.

## CRUSHERS.

Aising, J. R., Eng. Co.  
Austin Mfg. Co.  
Bacon, Earl C.  
Bartlett, C. O., & Snow Co.  
Butterworth & Lowe.  
Chrome Steel Wks.  
Ersham, J. B., & Sons Mfg. Co.  
Eureka Stone & Ore Crusher Co.  
Kent Mill Co.  
Marsh Co., G. C.  
Martin, Henry.  
McDonnell Boiler & Iron Works.  
Power & Mining Mch. Co.  
T. L. Smith & Co.  
Sturtevant Mill Co.  
Taylor Iron & Steel Co.  
Williams Contractors Supply Co.  
Williams Pat. Crusher & Pulverizer Co.

## CUT GEARS.

Nuttall, R. D., Co.

## DRAINAGE FITTINGS.

Wade Iron Sanitary Mfg. Co.

## DRILLS.

American Well Works, The.  
Keystone Traction Drill Co.  
Howell Mining Drill Co.  
Williams Contractors Supply Co.

## DRYERS.

Aising, J. R., Eng. Co.  
American Process Co.  
Bartlett, C. O., & Snow Co.  
Cummer, F. D., & Son Co.  
Ruggles-Coles Eng. Co.

## DRYER CARS.

Ernst Wiener Co.

## DUMP CARS.

Atlas Car & Mfg. Co.  
Austin Mfg. Co.  
Continental Car & Equip. Co.  
Ernst Wiener Co.  
Power & Mining Mch. Co.  
Sackett Screen & Chute Co., H. B.

## DYNAMITE AND POWDER.

Aetna Powder Co.  
DuPont Powder Co.  
Independent Powder Co.

## ENGINEERS.

Bacon, Earl C.  
J. C. Buckbee Co.  
Fuller Eng. Co.  
Schmatolla, Ernest.  
Spackman, Henry, Eng. Co.

## EXPANSION BOLTS.

Farrington, H.

## FIBRE MCHY.

Ohio Fibre Mch. Co.  
Shuart-Fuller Mfg. Co.

## FIRE BRICK.

Ashland Fire Brick Co.  
Buckeye Fire-Clay Co.  
Carolina Portland Cement Co.  
Harbison-Walker Refractories Co.  
Louisville Fire Brick Co.  
Union Mining Co.

## GAS AND GASOLINE ENGINES.

Power & Mining Mch. Co.

## GAS PRODUCERS.

Duffs Patents Co.  
Power & Mining Mch. Co.

## GYPSUM.

Carolina Portland Cement Co.  
Empire Gypsum Co.  
Iowa Hard Plaster Co.  
King, J. B., & Co.  
Plymouth Gypsum Co.  
Niagara Gypsum Co.  
U. S. Gypsum Co.

## GYPSUM MCHY.

Butterworth & Lowe.  
Cummer, F. D., & Son Co.  
Ersham, J. B., & Sons Mfg. Co.  
McDonnell Boiler & Iron Works.

## HARDENING CYLINDERS.

Aising, J. R., Eng. Co.  
American Clay Machinery Co.

## HYDRATING CYLINDERS.

Aising, J. R., Eng. Co.  
Clyde Iron Works.  
Kritzer, The, Co.  
National Mortar & Supply Co.

## HYDRATING MCHY.

Clyde Iron Works.  
Kritzer Co., The.

## IRON COLUMNS.

Mostberger-Langner Iron Co.

## LIME.

Carolina P. C. Co.  
Farman Cheshire Lime Co.  
Fowler & Pay.  
Goetz, Charles W., Lime & Cement Co.  
Ohio & Western Lime Co., The.  
Kelly Island Lime & Trans. Co.  
Marblehead Lime Co.  
Mitchell Lime Co.  
National Lime & Stone Co.  
National Mortar & Supply Co.  
New Jersey Lime Co.  
Pierce City Lime Co.  
The Scioto Lime & Stone Co.  
Western Lime & Cement Co.

## LIME, HYDRATED.

Ohio & Western Lime Co., The.  
Marblehead Lime Co.  
National Lime & Stone Co.  
National Mortar & Supply Co.  
The Scioto Lime & Stone Co.  
Warner, Chas., Company.

## LOCOMOTIVES.

Davenport Locomotive Wks.  
Ernst Wiener Co.

## LUBRICATING DEVICES.

Van Doren Co., The C. J.

## METAL LATH.

Carolina Portland Cement Co.

## PNEUMATIC TOOLS.

Howell Mining Drill Co.

## PLASTER MCHY.

Butterworth & Lowe.  
Cummer, F. D., & Son Co.  
Dunnin, W. D.  
Ersham, J. B., & Sons Mfg. Co.  
Williams Pat. Crusher & Pulverizer Co.

## PLASTER.

Carolina Portland Cement Co.  
Empire Gypsum Co.  
Iowa Hard Plaster Co.  
King, J. B., & Co.  
National Mortar & Supply Co.  
Plymouth Gypsum Co., The.  
Rader, Gustave, Co.  
Sackett Plaster Board Co.  
U. S. Gypsum Co.

## PULVERIZERS.

Ernst Wiener Co.  
Aising, J. R., Eng. Co.  
Kent Mill Co.  
Lehigh Car, Wheel & Axle Wks.  
Raymond Bros. Co., The.  
Sturtevant Mill Co.  
Williams Pat. Pulverizer Co.

## RAILROADS.

Illinois Central R. R.  
Monon Route.

## QUARRY TRUCKS.

American Quarry Truck Co., The.

## RAILROAD MATERIAL.

Atlas Car & Mfg. Co.  
Ernst Wiener Co.

## ROOFING MATERIAL.

Barrett Manufacturing Company.  
Carolina Portland Cement Co.

## SAND.

Bartlett Co., The.  
Ottawa Silica Sand Co.  
United States Silica Co.

## SAND-LIME BRICK MCHY.

American Clay Wking. Mch. Co.  
American Sand Stone Brick Co.  
International Sand-Lime Brick & Mach. Co.

## SCALES.

Richardson Scale Co.

## SCREENS.

Butterworth & Lowe.  
Ersham, J. B., & Sons Mfg. Co.  
Johnson & Chapman Co.  
Power & Mining Mch. Co.  
Sackett Screen & Chute Co., H. B.

## SEWER PIPES.

Buckeye Fire Clay Co.

## SOAP STONE FINISH.

American Soap Stone Finish Co.

## STEAM SHOVELS.

The Bucyrus Co.  
The Vulcan Steam Shovel Co.

## STUCCO RETARDER.

Chemical Stucco Retarder Co.  
Ohio & Binns Retarder Co.

## TUBE MILLS.

Aising, J. R., Eng. Co.  
Power & Mining Mch. Co.

## WATER PROOFING.

Anhydrous Pressed Stone Co.  
Aqua-Bar Co., The.  
Barrett Manufacturing Co.  
Carolina Portland Cement Co.  
De Smet, Geo. W.  
Marblehead Lime Co.  
Maumee Chemical Co.  
Sanitary Construction & Mfg. Co.  
Wadsworth, Howland & Co., Inc.

Red, Brown, Buff and Black



**MORTAR  
COLORS**

The Strongest and  
Most Economical  
in the Market.



Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

**CHATTANOOGA PAINT CO.**

Chattanooga, Tennessee

**TWENTY LONG YEARS**

of time and weather tried out Ricket famous "Red Brick" Brand.

**COLOR**

for Mortar, Brick, Cement, Stone, etc., and proved it to be absolutely permanent. Red, Brown, Buff, Purple and Black.

**Ricketson Mineral Paint Works**  
MILWAUKEE, WISCONSIN





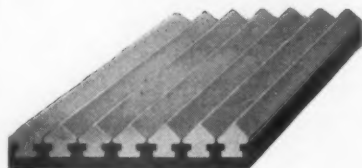
## MONON ROUTE

BETWEEN

**Electric Lighted Standard Sleepers on Night Trains. Parlor and Dining Cars on Day Trains**

Actna Powder Co. ....	15	Century Cement Mach. Co. ....	71	Harbison-Walker Refractories		Miller's Plastering .....	55	Sanitary Construction Mfg.	
Alma Cement Co. ....	1	Charles, J. M. ....	9	Co. ....	1	Mitchell Lime Co. ....	52	Co. ....	72
Alpha Portland Cement Co. ....	5	Chattanooga Paint Co. ....	54	Howell Mining Drill Co. ....	56	Monroe Route .....	55	Schmatolla-Ernest .....	55
Alsting, J. R., Eng. Co. ....	61	Chemical Stucco Retarder Co. ....	65			Mostberger-Langner Iron Co. ....	74	Scioto Lime & Stone Co. ....	14
American Cement Co. ....	76	Chicago Belting Co. ....	1					Sharon Steel Hoop Co. ....	65
American Clay Working Machinery Co. ....	75	Chicago Portland Cement Co. ....	2	Illinois Cent. Ry. ....	14			Shuart-Fuller Mfg. Co. ....	63
American Process Co. ....	18	Chrome Steel Works. ....	56	Independent Powder Co. ....	15	National Lime & Stone Co. ....	14	Simpson Cement Mold Co. ....	63
American Quarry Truck Co. ....	56	Clinton Metallic Paint Co. ....	63	International Sand-Lime Brick & Mach. ....	74	National Mortar & Supply Co. ....	55	Smith, T. L., Co. ....	57
American Sandstone Brick Machine Co. ....	74	Clyde Iron Works. ....	6	Iowa Hard Plaster Co. ....	65	Niagara Gypsum Co. ....	70	Spackman, Henry, Eng. Co. ....	18
American Soap Stone Finish Co. ....	14	Concrete Stone & S. Co. ....	73	Ironton Portland Cement Co. ....	39	Northwestern States P. C. Co. ....	39	St. Louis Portland Cement Co. ....	18
		Continental Car & Equip. Co. ....	13			Nuttall, R. D., Co. ....	17	Superior Portland Cement Co. ....	39
American Steel and Wire Co. ....	10	Cummer & Son Co., F. D. ....	18-65	Johnston & Chapman Co. ....	16			Svenson-Shuman Machine Co. ....	60
American Well Works, The. ....	58					Ohio-Binns Retarder Co. ....	67		
Anchor Concrete Stone Co. ....	72	Davenport Loco. Works. ....	56			Ohio Fibre Mach. Co., The. ....	63	Taylor Iron & Steel Co. ....	59
Anhydrous Pressed Stone Co. ....	9	De Smet, Geo. ....	8	Kelley Island Lime & Trans. Co. ....	13	Ohio & Western Lime Co. ....	13	Union Mining Co. ....	7
Aquabar Co., The. ....	9	Dexter Portland Cement. ....	1			Oklahoma Port. Cement Co. ....	37	United States Gypsum Co. ....	68
Ashland Fire Brick Co. ....	18	Dixie Portland Cement Co. ....	7	Kent Machine Co. ....	60	Ottawa Silica Sand Co. ....	1-30	United States Silica Co. ....	37
Atlas Car & Mfg. Co. ....	76	Duff Patents Co. ....	12	Kent Mill Co. ....	60			Universal Portland Cement Co. ....	37
Atlas Portland Cement Co. ....	76	Dunning, W. D. ....	75	Keystone Traction Drill Co. ....	59	Pierce City Lime Co. ....	9	Urschel Bates Valve Bag Co. ....	46
Austin Mfg. Co. ....	57	Du Pont Powder Co. ....	15	King, J. B., & Co. ....	63	Penn Allen Port. Cem. Co. ....	35	Utica Hydraulic Cement Co. ....	38
				Kosmos Portland Cement Co. ....	38	Pennsylvania Cement Co. ....	7		
		Edison Portland Cement Co. ....	2	Kritzer Company, The. ....	5	Peninsular Port. Cement Co. ....	2	Van Doren, C. J. ....	59
Bacon, Earle C. ....	58	Empire Gypsum Co. ....	67			Perfection Block Mach. Co. ....	74	Vulcan Steam Shovel Co. ....	61
Barrett Mfg. Co. ....	16	Elhrsam, J. B., & Sons Mfg. Co. ....	66	Lehigh Car Wheel & Axle Works ....	59	Pettjohnny Co., The. ....	74		
Bartlett, C. O., & Snow Co., The. ....	58	Eureka Stone & Ore Crusher Co. ....	57	Lehigh Portland Cement Co. ....	2	Phoenix Cement Co. ....	63	Wade Iron Sanitary Mfg. Co. ....	6
Bartlett Co., The. ....	8			Little, C. H., & Co. ....	40	Plymouth Gypsum Co., The. ....	4	Wadsworth, Howland Co. ....	9
Books for the Trade. ....	53			Louisville Fire Brick Works. ....	53	Power & Mining Mch. Co. ....	4	Warner, Charles, Co. ....	8
Buckbee, J. C., Co. ....	9							Wiener Co., Ernst. ....	75
Buckeye Fire Clay Co. ....	53	Farnham Cheshire Lime Co. ....	12	McDonnell Boiler & Iron Wks. ....	64			Western Lime & Cement Co. ....	12
Bicryrus Co., The. ....	61	Farrington, H. ....	18	Main Belting Co. ....	53	Richardson Scale Co. ....	40	West Jersey Bag Co. ....	37
Butterworth & Lowe. ....	64	Fowler & Pay. ....	13	Marsh Co. ....	58	Ricketson Mineral Paint Wks. ....	54	Williams, C. K., & Co. ....	18
		French, Samuel H., & Co. ....	1	Marblehead Lime Co. ....	13	Ruggles-Coles Eng. Co., N. Y. ....	18	Williams Contractors' Supply Co. ....	18
		Fuller Eng. Co. ....	17	Marquette Cement Mfg. Co. ....	1				
				Martin, Henry, Brick Mach. Mfg. Co. ....	55	Sackett Plaster Board Co. ....	69	Pulverizer Co. ....	63
Caldwell, H. W., & Sons Co. ....	17	Gandy-Belting Co., The. ....	63	Maryland P. C. Co. ....	37	Sackett Screen & Chute Co. ....	17	Winnat Coopers Co. ....	18
Carolina Portland Cement Co. ....	7	Goetz, C. W., Lime & Cement Co. ....	13	Maumee Chemical Co. ....	39	H. B. ....	17	Wolverine Portland Cement Co. ....	18
Castalia Portland Cement Co. ....	7	Gruscom-Spencer Co. ....	62	Meacham & Wright. ....	39	Sandusky P. C. Co. ....	8		
Cement Products Exhibition Co. ....	11								
Cement Tile Mch. Co. ....	71								

## A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

**CHROME STEEL WORKS**  
CHROME, N.J., U.S.A.  
(FORMERLY OF BROOKLYN, N.Y.)

☞ The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

☞ The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

☞ Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

— Send for Descriptive Pamphlet —

Represented by

J. F. Spellman, 202 Century Building, Denver, Colo.

George T. Bond, Easton, Pa.

George W. Myers, San Francisco, Cal.



## HOWELL'S Celebrated Ball Bearing Heavy Geared Post Drills

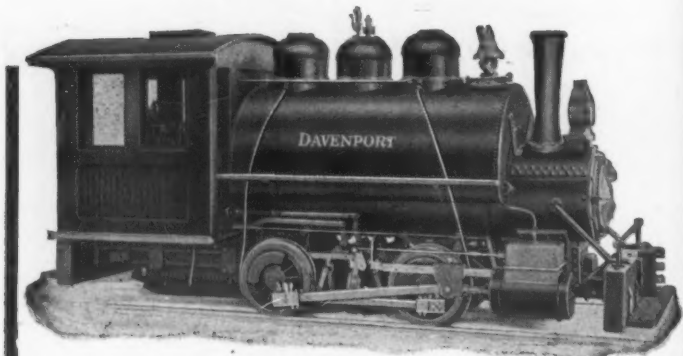
For boring anything that  
an Auger will penetrate.

*Awarded Gold Medal, St. Louis.*

We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send to day for our handsomely Illustrated Catalogue.

**HOWELL MINING DRILL CO.,** PLYMOUTH, PA.,  
(ESTABLISHED 1878.) U. S. A.

## Do You Have Cars to Haul? The Davenport Locomotive Will Save Money



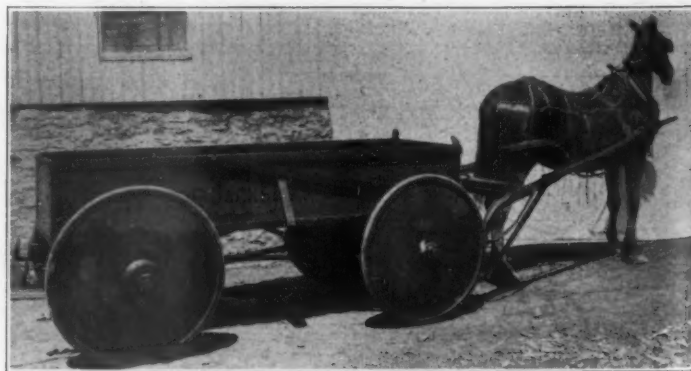
Special Designs for Special Purposes  
Any Size, Any Gauge, Any Weight  
Write for Prices and Particulars

**DAVENPORT LOCOMOTIVE WORKS**  
DAVENPORT, IOWA

## THE "PIQUA"

### All Steel Quarry Trucks

Are always close to the ledge, and do away with expensive systems of tracks, and the cost of moving them.



### STRONG—DURABLE

Quarrymen will do well to investigate this new means of reducing cost.

Equally adapted for hand or steam shovel loading.

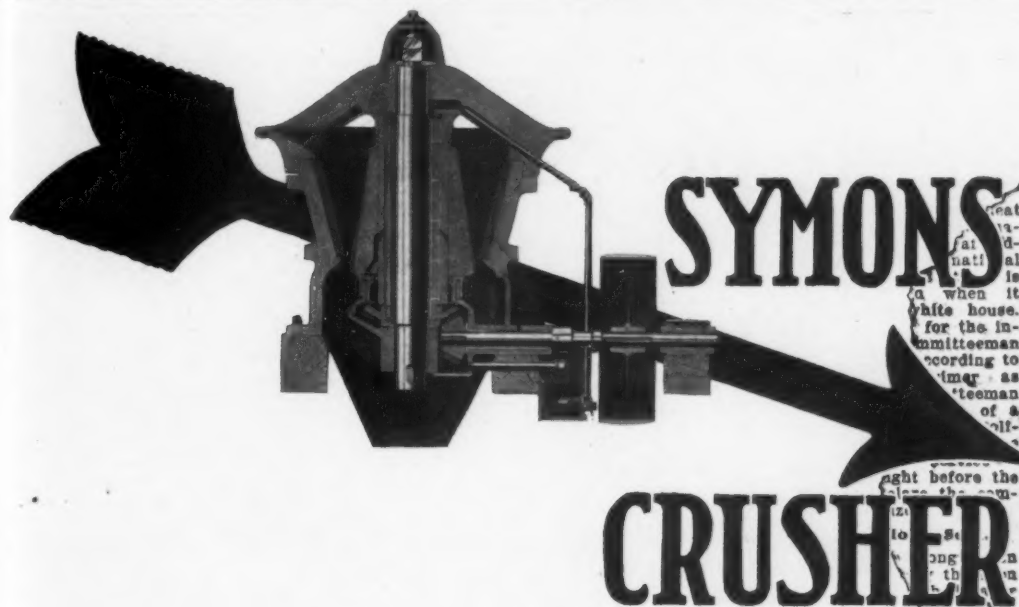
SEND FOR CATALOG.

**THE AMERICAN QUARRY TRUCK CO.**

Box 516, - - PIQUA, OHIO.

Tell 'em you saw it in ROCK PRODUCTS





Write for Catalogue No. 166.

## THE T. L. SMITH CO.

301 OLD COLONY BUILDING,  
CHICAGO, ILL.

### BIG CONTRACT FOR CHICAGO MEN

To Provide Stone-Crushing Machinery for British Naval Base.

SPECIAL CABLE TO THE DAILY NEWS.

London, England, Aug. 2.—The T. L. Smith company of Chicago has obtained the contract for supplying the stone-crushing machinery to be used by the British government in constructing the great naval base at Rosyth. This is one of the most important victories scored by American enterprise in England. The Chicago firm will proceed immediately to install the six huge crushers required to break up the stone for making 1,000,000 cubic yards of concrete.

Rosyth harbor will take seven years to build and will cost \$23,500,000 (\$17,500,000). It will consist of a graving pier capable of taking the largest ships in the navy and of a big basin and quays accommodating twenty-two warships. Ultimately double banks will be provided, making room for forty-four warships, with powerful land defenses.

Chicago Daily News  
August 2, 1909.

## Our Crushers Are Startling the World

This illustration shows the exact product, numbered from 1 to 8, that our CRUSHERS produce. Would you not be interested in a crusher if we guarantee to produce from 10 to 20 tons in ten hours with this little No. 1 machine, from 3 to 4-inch material at one operation? We have sold over 200 of these machines in the past year, and they are doing just this very kind of work. We manufacture twenty different-sized crushers.

Eureka Stone & Ore Crusher Company  
(Successors to the Universal Stone Crusher Company)

Box 591, Cedar Rapids, Iowa

Style No. 1, 7x8 Jaw Opening, 4 Horse-power.

## AUSTIN GYRATORY CRUSHER

The World's leading rock and ore breaker.

The only self lubricating Crusher.

The only Crusher having double countershaft bearing.

Simple construction, correct design.

Thousands in use.

Plans and specifications furnished for any sized plant.

Send for Catalogue No. 17.

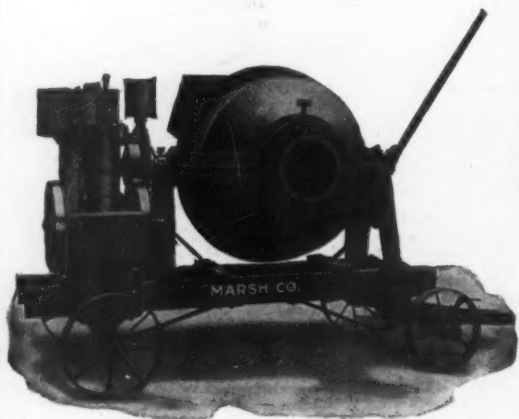
All experienced users recognize that the efficiency and durability of the suspension bearing as applied to Gyratory Crushers, depends upon locating the bearing at the point of least gyration or movement of the main shaft.

A perfect suspension can be made only by locating the bearing at the point where there is no movement of the shaft. That being a mechanical impossibility it follows that superiority is obtained in fixing the bearing at the point of least gyration of the shaft.

As the accompanying cut will show, the movement of the shaft at the point of suspension in the Austin Crusher is reduced to the minimum and practically eliminated. Consequently the highest possible degree of efficiency and durability is obtained.

Austin Manufacturing Co., Chicago,

New York City Office  
1682 FULTON BUILDING  
Hudson Terminal



Furnished with any combination of power and mounting, chain or gear connection at option.

## Marsh-Dexter Mixer

We claim a lot for this machine.

If our claims are true you want to know it.

If you will write us we will tell you how to find out.

**Marsh Company**  
903 Old Colony Building  
CHICAGO

THE C. O. BARTLETT & SNOW CO. CLEVELAND, OHIO, U. S. A.  
MANUFACTURERS OF

**Crushers, Graders, Elevators**  
**Drop Forge Steel Chain**  
**Malleable and Steel Buckets**

DRYERS—the largest assortment in the world.  
GYPSUM MACHINERY, PLASTER MACHINERY,  
SELF-DUMPING CAR HAULS,  
SAND AND BRICK DRYERS AND CONVEYORS.

Our motto is

**"The Best and Always the Best."**

**FARREL ORE AND ROCK**

# CRUSHER

USED IN ALL PARTS OF THE WORLD—LARGE  
RECEIVING CAPACITY—SPECIALLY DESIGNED  
AND CONSTRUCTED FOR HARDEST KIND OF WORK  
**COMPLETE CRUSHING PLANTS OUR SPECIALTY**

• SEND FOR CATALOGUE •

**EARLE C. BACON, ENGINEER.**  
FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK



## Deep Blast Hole Drilling

Is accomplished more economically than by any other method with the

### "American" Drilling Machines

There is 40 years' experience behind these drills—they are standard.  
Where electric power is available, equipped with motor they form the most portable and economical drill for quarry use.  
Equipped with any power they are backed by the experience and reputation of the world's oldest and largest builders of this kind of drilling machinery.  
Tell us your blast hole requirements. We have 50 regular styles and sizes of machines for your selection, made in types to meet every possible condition of work.  
Write for our new catalog No. 105, the most complete "Drill-Hole" catalog ever issued.

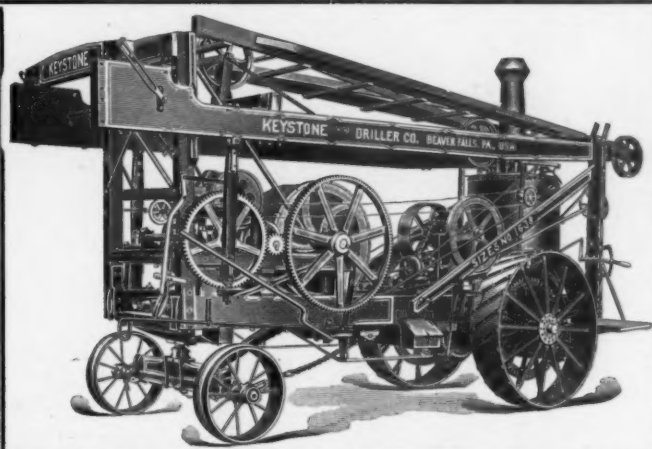
**THE AMERICAN WELL WORKS**

General Office and Works: AURORA, ILL., U. S. A. Chicago Office: First National Bank Building

Tell 'em you saw it in ROCK PRODUCTS



## KEYSTONE CHURN DRILLS FOR HEAVY BLAST HOLES

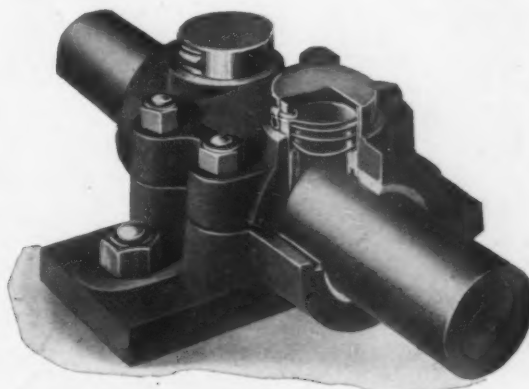


**IN CEMENT and STONE QUARRIES**, where large and deep blast holes can be used to advantage, these machines form the cheapest and quickest means of sinking 6 inch holes.

Penetrate any formations, any depth, 30 or 300 feet. Self-moving or portable, if desired.

Ask for Catalog No. 4.

**KEYSTONE TRACTION DRILL CO.**  
Monadnock Bldg., BEAVER FALLS, PA., CARTHAGE, MISSOURI.  
CHICAGO. 170 Broadway, NEW YORK.



**\$1.00=\$5.00**

Would you like to make \$1.00 do the work of \$5.00? Experience has taught us that we can do it, and pleased customers will back our statements.

By the Van Doren system of lubrication, oil bills are reduced from 60 to 90%, to say nothing of labor, cost of repairs due to burned out bearings, loss of time on machinery when running hot, etc.

It also replaces dirt and grease with perfect cleanliness.

Especially adapted to Mines, Flour Mills, Cement Mills and similar institutions.

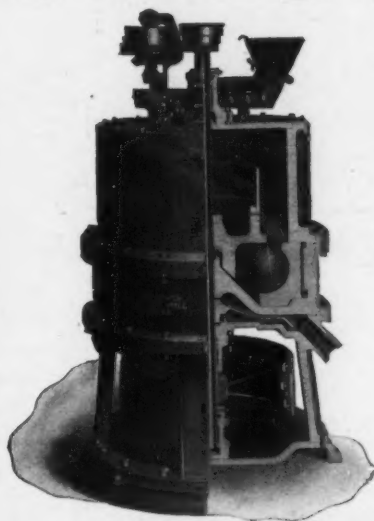
Write for complete information.

**C. J. VAN DOREN CO.**

New Number, 426 West Madison St.

CHICAGO, ILL.

## The Fuller-Lehigh Pulverizer Mill



Cement Companies equipped with Fuller Mills advertise the fact that the consumer gets 38 pounds more of the **IMPALPABLE POWDER** or **REAL CEMENT** in every barrel of cement produced by The Fuller Mill than by any other

### Produces Commercially

Cement having a higher percentage of Impalpable Powder than can be obtained by any other mill. Tests show that the tensile strength of a one-fourth mortar made with cement pulverized by the Fuller Mill is higher than the tensile strength of a one-third mortar made with cement pulverized to the fineness required by the Standard Specifications.

**Lehigh Car, Wheel & Axle Works**

Main Office: CATASAUQUA, PA.

New York, N. Y.

Kansas City, Mo.

Hamburg, Germany, Alsterdamm 7.

## CONCAVES—

Crusher men, for years have known the value of **TISCO MANGANESE STEEL!**

Won't you see how much better it is than chilled iron—how different the wearing qualities.

Let us equip your crusher with a set of concaves—one piece or sectional. They will surprise you by their long service.

We make heads too! They last!

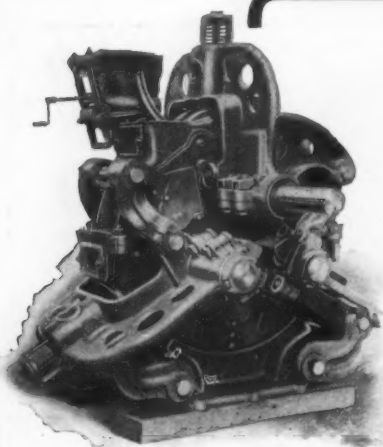
Does your banker use a **TISCO MANGANESE STEEL SAFE?**

POSTAL BRINGS CATALOG

**TAYLOR IRON & STEEL CO.**

HIGH BRIDGE, NEW JERSEY

Tell 'em you saw it in **ROCK PRODUCTS**



# MAXECON

MEANS

## MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY. Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

**WE DO NOT CLAIM ALL of the CREDIT for this achievement**

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cement Co. (U. S. Steel Corp.) Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., W. H. Harding, Prest., Coplay P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co., Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.

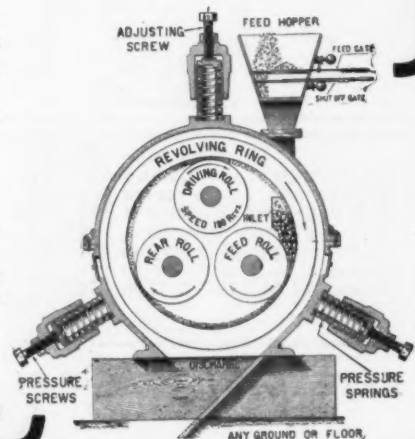
### THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and automatically ADAPTS its position to the variations of work.

Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.

## KENT MILL CO.

170 BROADWAY, NEW YORK CITY  
LONDON, W. C., 31 HIGH HOLBORN  
CHARLOTTENBURG 5, WINDSCHEID STRASSE 40, BERLIN



### "The Svenson is Easily the Simplest and Fastest Mixer Ever Built"

Quit wasting money and making bad concrete with that "batch" machine. Don't fuss and lose time with complicated mixers. Let us tell you about this simple, strong machine.

### The Svenson Concrete Mixer

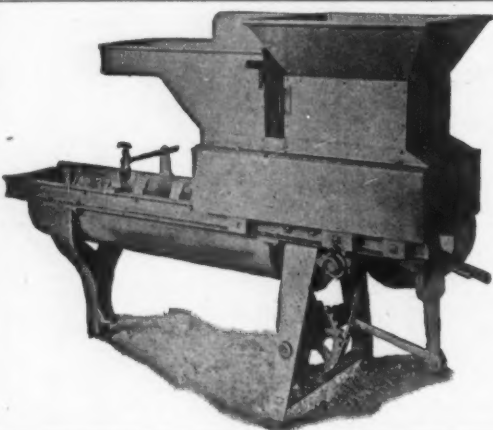
Has only five moving parts, all on one shaft. It keeps going and it keeps the men going.

We want to tell you our ideas on proper mixing, for the "Svenson" mixes dry, then wet—the only scientific way. And it proportions the mix positively, just the way you set it.

Send for Catalogue.

## Svenson-Shuman Machine Co.,

602 Bessemer Bldg., PITTSBURGH, PA.



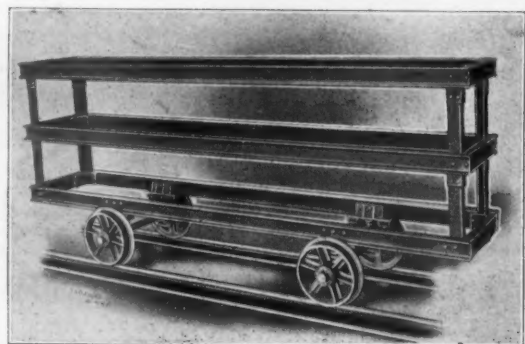
### "KENT" CONTINUOUS MIXER

"The Mixer that measures and Mixes"

"You fill the Hopper, the Mixer does the rest"

Simple, reliable, economical, durable and moderate in price

Write for Catalogue and Prices to  
**The Kent Machine Co.**  
306 N. Water St., Kent, O.



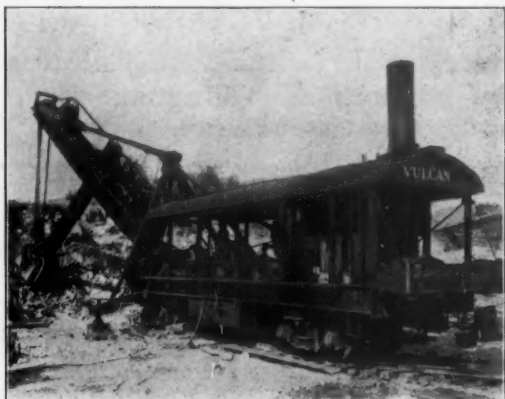
The "KENT" Block Cars, Transfer Cars, etc.

Tell 'em you saw it in ROCK PRODUCTS





"Little Giant" loading blasted rock, Sibley Quarry Co., Sibley, Mich.



"Giant," Class A, digging cement rock without blasting, Burt Portland Cement Co., Bellevue, Mich.

All GEARS on

## Vulcan Steam Shovels

are made of Cast Steel, with Cut Teeth. All castings under heavy strain are of Basic, Open-hearth Steel. All iron castings are of the very best quality Gray Iron. These are only a few of the many features that characterize Vulcan Steam and Electric Shovels. Every part is manufactured from material that has been proven by many years of actual work to be the best for the purpose. The design of every part, and of the shovel complete, is what 30 years' experience in high class steam shovel building has taught us to be correct. We have so perfected our shovels that we are willing to put one in your quarry and cover it with an iron-clad guarantee to give you complete satisfaction. Can you ask for a better proposition than this?

### GIANT BOOM SHOVELS

6 sizes,  $1\frac{1}{2}$  to 5 cubic yard dippers.

### LITTLE GIANT SHOVELS

2 sizes,  $1\frac{1}{2}$  cubic yard dippers.

### REVOLVING SHOVELS

3 sizes,  $\frac{1}{2}$  to  $1\frac{1}{2}$  cubic yard dippers.

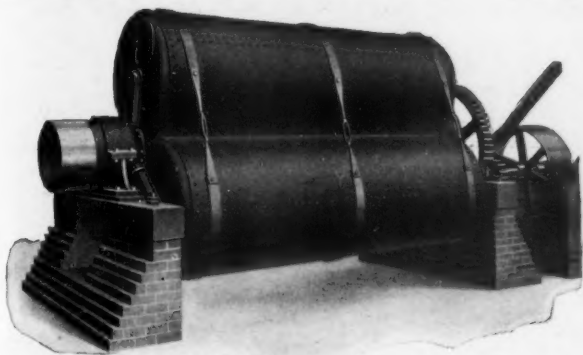
Every shovel fully improved and guaranteed. Traction wheels or trucks. Steam or electric power.

Full information, prices, etc., on request. Write today.

## THE VULCAN STEAM SHOVEL COMPANY

129 Vulcan Place, TOLEDO, OHIO.

## Attention Cement Mills



Multiple Tube Mill

10 Tube Mills, 5'x22' consume at least	600 H.P.
10 Multiple Tube Mills, with the same capacity will consume	300 H.P.
Saving	300 H.P.

Supposing you have to borrow the money to make the change,

10 Multiple Tube Mills cost	\$12,000.00
Interest at 6%	720.00
Installing the mills	2,280.00
	\$15,000.00

Lowest cost per H.P. per year \$40.00.  $40 \times 300 = \$12,000.00$ . So that a loan of \$15,000.00 will give a continuous income of \$12,000.00 per year. Who wants it? Apply to

**J. R. Alsing Engineering Co.**  
136 Liberty St., New York, U. S. A.



95-C IN SANDUSKY PORTLAND CEMENT COMPANY'S QUARRY.

**Bucyrus Shovels Are Loading Crushed Stone and Digging Blasted or Unblasted Cement Rock in the Leading Quarries in the United States.**

## THE BUCYRUS CO.

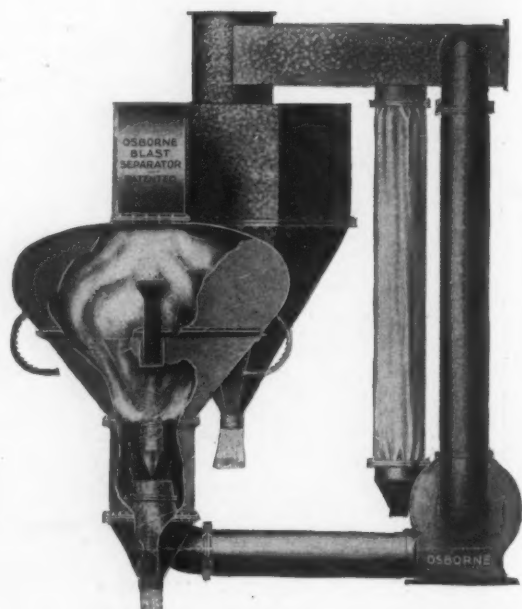
Branch Offices:  
NEW YORK  
SAN FRANCISCO

Main Office & Works:  
South Milwaukee, Wis.

Tell 'em you saw it in ROCK PRODUCTS

# STOP LOSING MONEY

In Your Grinding Room



You know it costs money to separate your material after it is ground, so why not use the best means of separation?

We can prove that the

## Osborne Pneumatic Blast Separator

IS THE BEST AND CHEAPEST MACHINE FOR YOU TO USE.

It will give you larger capacities for less horse power than any other machine on the market. Will separate your material to 200 mesh fine.

Capacities, from 3½ to 10 tons per hour of finished product 95% 100 mesh fine.

**STOPS ALL FLOATING DUST IN YOUR GRINDING ROOM.**

Circular "A" Tells You More About It.

Manufactured by

**THE GRISCOM-SPENCER CO. 90 West Street, New York City**

# OVER TWENTY-ONE CENTS A TON SAVING IN GRINDING COAL

By Using

## THE RAYMOND ROLLER MILL

The following figures are not theoretical but were given us direct from the cost records of one of our customers who makes cement.

During and previous to 1906 they used Hammer and Tube Mills for grinding their coal. Beginning with 1907 they used Raymond Roller Mills. Here are their figures:

	1907	1906
	Raymond Mill	Hammer and Tube Mill
Operation, cost per barrel	\$.008	\$.015
Repairs, cost per barrel	.004	.0175
Total	\$.012	\$.0325

**Saving per barrel \$.0205**

For more than 200 customers, in different lines, grinding all kinds of material, we have given similar results. Can you afford to ignore that record? It will cost you nothing to talk to us. Ask us for further information.

**Raymond Brothers Impact Pulverizer Company**

141 Laflin Street, CHICAGO

Tell 'em you saw it in ROCK PRODUCTS



# RAW MATERIAL GRINDERS

## New Williams Universal



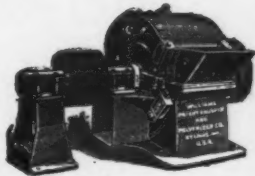
FOR TUBE MILL FEED  
800 BARRELS 22 HOURS  
95 PER CENT THROUGH 20 MESH  
HORSE POWER 40 TO 50

WE ALSO GRIND  
GYPSUM, LIME, COAL AND SHALE

## Vulcanite Grinder

FOR ROLLER MILL FEED  
TAKES MATERIAL FROM  
GYRATORY, DIRECT

CAPACITY 20 TONS HOUR  
FINENESS 1/2 IN., 1/4 IN. AND 1/8 IN.  
HORSE POWER 40 TO 45  
1,300 MILLS NOW IN USE



WRITE FOR BULLETIN NO. 12

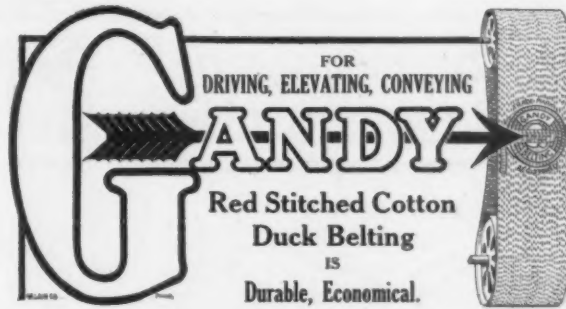
WORKS:  
ST. LOUIS, MO.

The

SALES OFFICE:  
OLD COLONY BLDG.  
CHICAGO

Williams Pat. Crusher & Pulverizer Co.

San Francisco Offices: 428 Monadnock Building



1-3 Cost of Leather. 25 Per Cent Cheaper than Rubber.  
We Solicit a Trial Order.

The Gandy Belting Company, Baltimore, Md.

New York Branch: 88 to 90 Reade Street.



## Wade Iron Sanitary Mfg. Co.

MANUFACTURER OF

Wade Back Water Gate Valves, Clean-Out House  
Drainage Fittings, Iron Catch Basins and Cast  
Iron Covers, Etc.

Send for Catalogue.

Long Distance Phone, Harrison 6713.

43 E. Harrison Street,

CHICAGO, ILLS.

## CLINTON METALLIC PAINT CO. CLINTON, N. Y.

LARGEST AND OLDEST MANUFACTURERS OF

BRICK AND  
MORTAR

COLORING

Be sure you get the genuine with the "Little Yellow Side-Label"  
on each package.

Let us tell you about Side-Walk Black.

# SPECIAL MACHINERY AND FORMULAS

FOR THE MANUFACTURE OF

WOOD FIBRE PLASTER, FIRE PROOFING  
AND KINDRED PRODUCTS

We furnish the latest improved FIBRE MACHINE, (fully patented) also  
FORMULAS, on a reasonable proposition. The strongest companies  
and oldest manufacturers are operating under my contracts.  
WRITE FOR TERRITORY

The Ohio Fibre Machinery Co.

J. W. VOGLESONG,  
GENERAL MANAGER

Elyria, Ohio

## KING'S WINDSOR CEMENT FOR PLASTERING WALLS AND CEILINGS

Elastic in its nature, can be applied with 25 per cent less labor and  
has 12 1/2 per cent more covering capacity than any other similar  
material

Buffalo Branch, CHAS. C. CALKINS, Manager  
322 W. Genessee Street

J.B. KING & CO., No. 1 Broadway, New York

CROWING FOR

**PLYMOUTH  
CEMENT  
AND  
WOOD FIBER  
PLASTER**

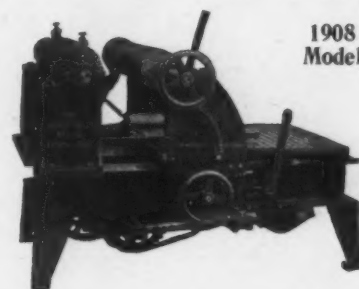
The Brand that's Made from Pure  
Gypsum Rock.

WRITE US FOR PRICES AND  
ADVERTISING MATTER.

**Plymouth Gypsum Co.**

Fort Dodge, Iowa

## The Shuart-Fuller Improved Fiber Machine



1908  
Model

Has an automatic, proportional, increasing  
feed, which keeps grade of fiber  
uniform from start to finish, and holds  
machine to highest possible rate of pro-  
duction for the grade of fiber and num-  
ber of saws. Does not begin with fiber  
and end with dust, nor fall off in rate of  
production on each log, from 40 to 80  
per cent as do the ordinary non-increasing  
feed machines. Works logs up to  
24x24 inches. No royalty string attached  
to sale. Pay no attention to mis-  
representations of our competitors, but  
write for descriptive circular and terms to

**The Shuart-Fuller Mfg. Co.**

ELYRIA, OHIO

St. Louis, June 17, 1907.

THE SHUART-FULLER CO., Elyria, Ohio.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein  
they state that the Wood Fiber Machine recently shipped by you is doing all that we have  
asked of it and running very fine

ACME CEMENT PLASTER CO  
By Jas. R. Dougan, Sec.

Tell 'em you saw it in ROCK PRODUCTS

PRINT IN BINDING

**BUILDERS' SUPPLY  
DEALERS CAN**

**MAKE TWO PROFITS!**



## Both Manufacture and Sell Rader Patented Plaster Board

If you are selling plaster boards you are making one profit. Why not manufacture them and make both manufacturers' and dealers' profits? With

### RADER'S PATENTED MOULDING TABLES

you can manufacture the best plaster boards on the market and at less cost than the largest manufacturers, enabling you to compete with any brand, both in quality and price.

### PLASTER BOARDS

are rapidly displacing all kinds of lath, being fire and vermin proof, lower in price, more rapid and economical in construction, stronger and more durable.

### RADER'S PATENTED PLASTER BOARDS

made only with Rader's Patented Moulding Tables are the most satisfactory now on the market. Cannot be broken as can others, thereby eliminating

all risk of loss by breakage in transportation or general rough handling. They have to be sawed in two. Each side of the board is adapted to different purposes thus having a double advantage over any other make. Three plants are now in operation to meet a growing demand.

A COMPLETE PLANT CAN BE INSTALLED AT A SMALL COST as the Rader apparatus is licensed at a very low price and only a very small space is required for its operation. The device makes boards from  $\frac{1}{4}$  to 1 inch in thickness.

### TERRITORY AND RIGHTS CAN BE LICENSED

with the exception of the New England and Middle Atlantic states which have already been secured by one of the largest plaster manufacturing companies in the East.

Write us for Samples and Further Information.

**CUSTAVE RADER CO.** 1105 Metropolitan Ave. **BROOKLYN, N. Y.**

GET THE BEST

# Finest Line of Gypsum Machinery

MADE

## KETTLE CRUSHER NIPPERS

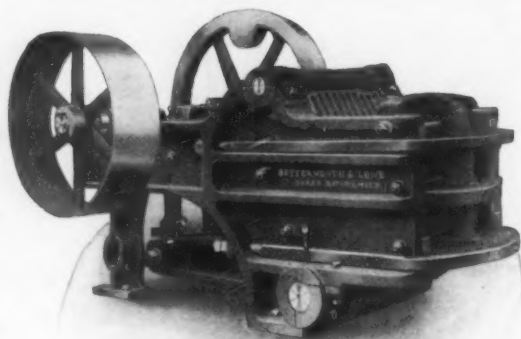
ASK FOR CATALOG OF

## MOGUL NIPPERS. OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

**MCDONNELL BOILER & IRON WORKS, Des Moines, Iowa, U. S. A.**

"Formerly Des Moines Mfg. & Supply Co."



## CRUSHERS

for soft rocks, burnt lime, etc.

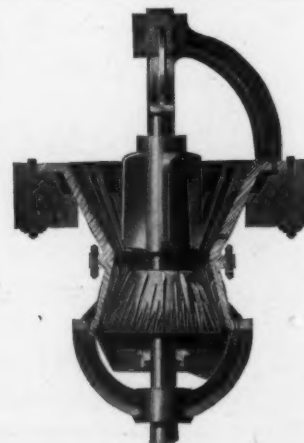
## GYPSUM MACHINERY

We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

SPECIAL CRUSHER-GRINDERS FOR LIME  
HYDRATORS

## BUTTERWORTH & LOWE

17 Huron Street, GRAND RAPIDS, MICH.



Tell 'em you saw it in ROCK PRODUCTS



# Stucco Retarder

Strong  
Uniform  
Fine Ground

## RETARDER

We are the oldest Retarder firm in the United States, and above is our motto. New fire-proof plant and prompt service.

FREE SAMPLE ON REQUEST

**Chemical Stucco Retarder Co.**

WEBSTER CITY, IOWA.

INCORPORATED 1895

# Plaster! Plaster!

**Iowa Hard Plaster Co.**

HARD BY NAME. HARD BY NATURE.  
HARD TO BEAT. NOT HARD TO GET.

**Iowa Hard Plaster Co.** FT. DODGE IOWA . . .

**CUMMER CONTINUOUS PROCESS**

FOR

## CALCINING GYPSUM

NO KETTLES  
USED

PLANTS IN  
OPERATION

Great Saving in Cost of Manufacture and Quality of Product Guaranteed.

The F. D. CUMMER & SON CO., Cleveland, O.

## SLOTTED STEEL STUDDING

*FOR FIREPROOF  
PARTITIONS, SUSPENDED CEILINGS,  
FURRINGS.*

### Mechanical Advantages

of Slotted Steel Studding.

It is horizontally braced every 16 inches of its height.

The slots afford a passage for conduits.

Wood blocks inserted in the slots, act as a nailing base for grounds.

It is adaptable to all kinds of expanded or wire lath.

It economizes weight and space.

It is made in channels, from Open Hearth Steel, having great tensile strength and rigidity.

Write for detailed blue prints and cost data on its various applications.

### PARKER STEEL CORNER BEAD



One of the most important features of good plastering is a perfect corner. If you wish to secure this at a minimum cost, you will use PARKER CORNER BEAD.

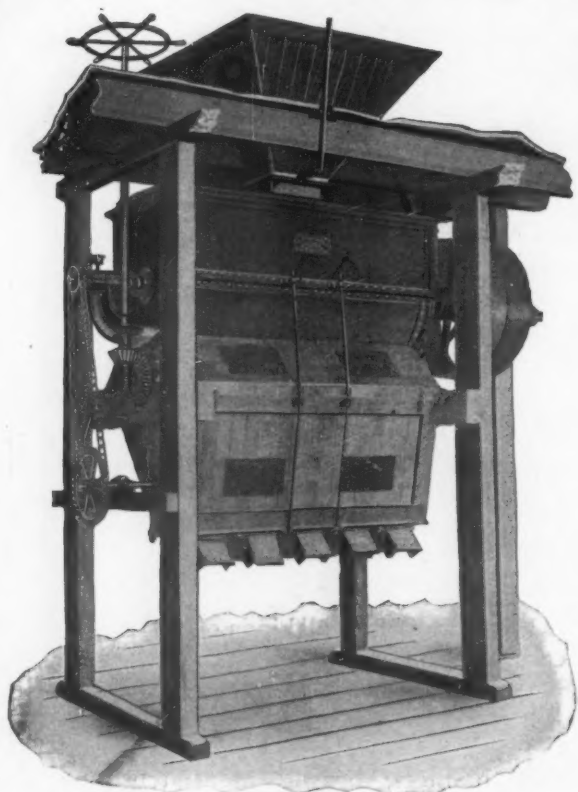
It furnishes a perfect guide to the plasterer, eliminating the necessity of straight edges.

Write for our prices.

**SHARON STEEL HOOP COMPANY,**  
COMMERCIAL NATIONAL BANK BUILDING,  
**CHICAGO**

N.Y. REPRESENTATIVE: FULLER BROS. & COMPANY  
139 GREENWICH ST. NEW YORK.

Tell 'em you saw it in ROCK PRODUCTS



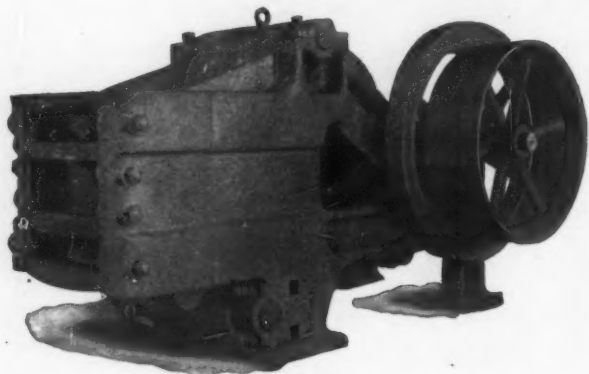
# ENTERPRISE PLASTER MIXER

NOISELESS,  
DURABLE and EFFICIENT.

For Mixing Hair Fibre, Wood Fibre and  
Retarder with Dry Plastering  
Materials.

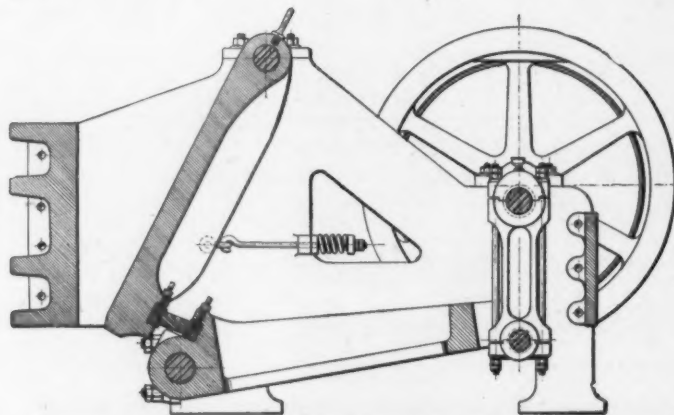
## Calcining Kettles

Jaw and Rotary Crushers for Gypsum, Reels,  
Vibratory Screens, Hair Pickers and Trans-  
mission for applying power.



EHRSAM NO. 4 JAW CRUSHER.

This machine will handle large chunks and reduce from 30 to 40 tons  
of Gypsum per hour to 2½-inch maximum or smaller if wanted.



NO. 4 JAW CRUSHER, SHOWING SECTIONAL VIEW OF NIPPER.  
The jaw opening at inlet is 18x28 inches.

## The J. B. Ehrsam & Sons Mfg. Co.,

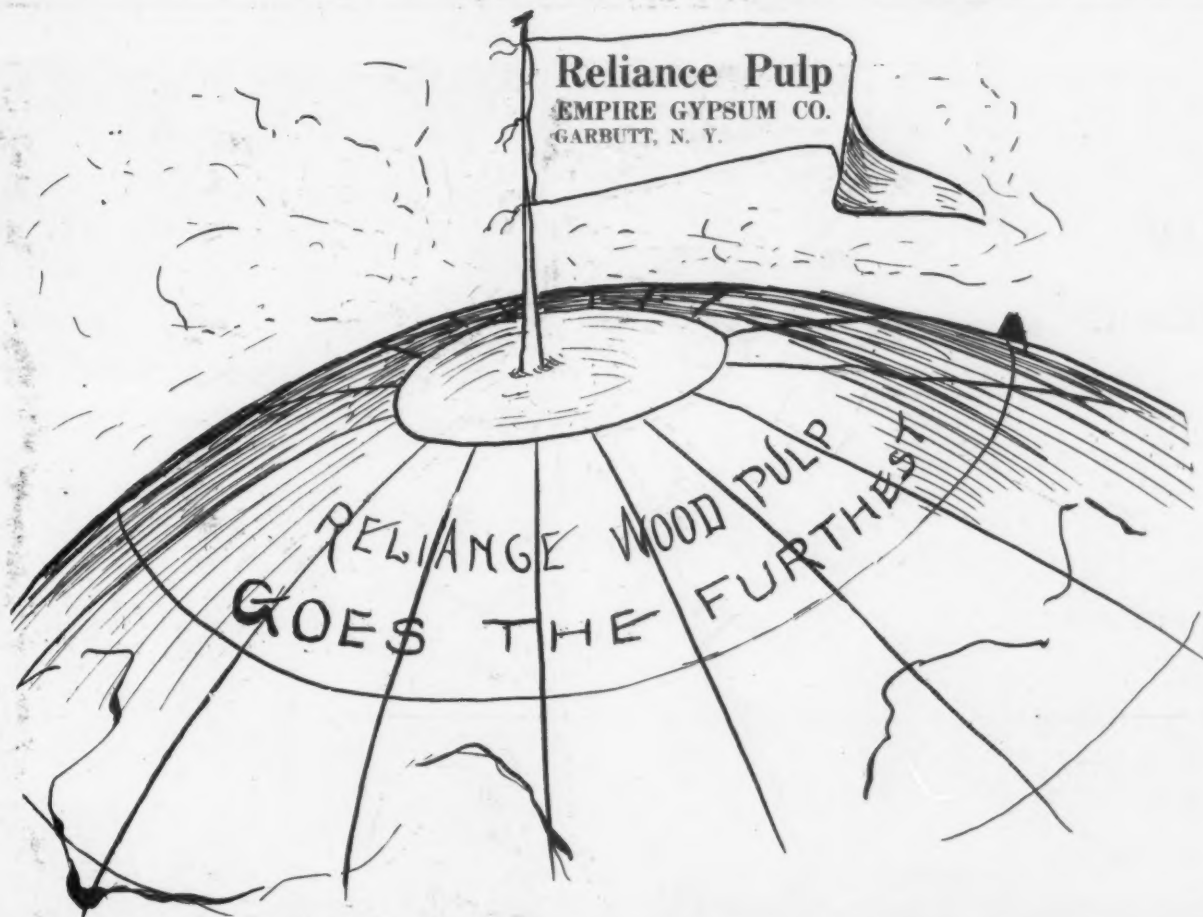
BUILDERS OF

### COMPLETE EQUIPMENTS FOR PLASTER MILLS

Enterprise, Kansas

Tell 'em you saw it in ROCK PRODUCTS





# RETARDER Wood Fiber

**THE OHIO and BINNS RETARDER CO.**  
PORT CLINTON, OHIO

**Reliable Stucco Retarder=Strong=Uniform in Strength=**  
Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

**THE OHIO and BINNS RETARDER CO.**  
PORT CLINTON, OHIO

Tell 'em you saw it in ROCK PRODUCTS

The Gypsinite  
Plaster Board  
System of  
**Fireproof  
Partitioning**

Lightest parti-  
tion known.

Easiest and  
quickest to  
erect.

No skilled labor  
required.

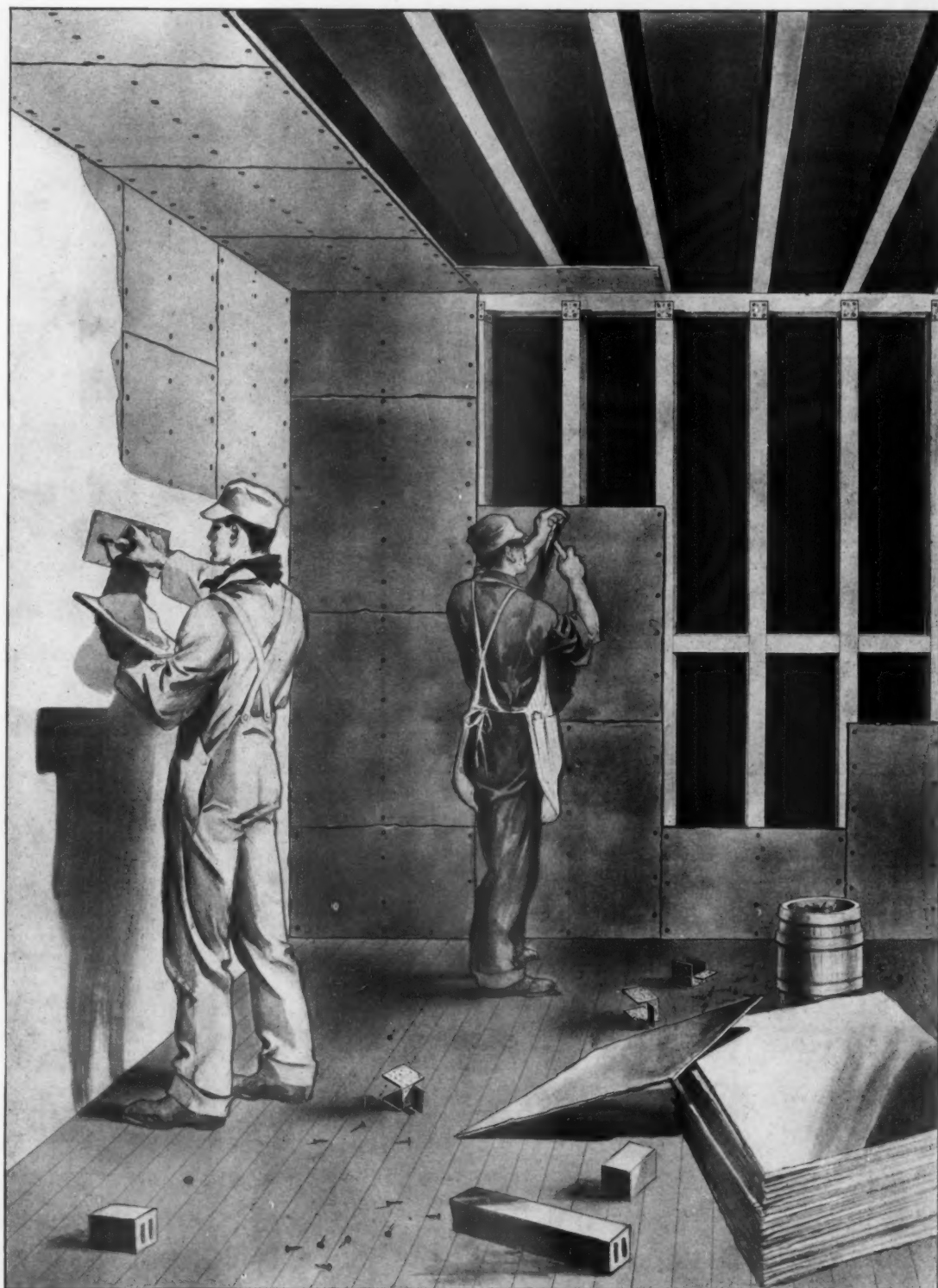
Sawing, fitting  
and nailing—  
that's all.

Economical of  
space.

Allows conceal-  
ment of pipes  
and wires.

Endorsed by  
building com-  
missioners,  
architects and  
contractors  
generally.

Successfully  
used in thou-  
sands of build-  
ings of all  
classes.



Information, literature and quotations  
for the asking

**United States Gypsum Co.**

Cleveland

Chicago

New York

Minneapolis

San Francisco

Tell 'em you saw it in ROCK PRODUCTS



# SACKETT·PLASTER·BOARD

## FIRE PROOFING

Instead of  
Lath

Time  
Saving

Labor  
Saving

Money  
Saving

The board  
that made  
plaster  
boards  
famous

First used  
in 1891  
Perfected  
in 1908

### SACKETT PLASTER BOARD CO.

BATTERY PLACE  
NEW YORK

UNITED STATES GYPSUM CO.  
CLEVELAND,  
CHICAGO,  
MINNEAPOLIS.

GRAND RAPIDS  
PLASTER CO.  
GRAND RAPIDS  
MICH.

Tell 'em you saw it in ROCK PRODUCTS

# NIAGARA GYPSUM CO.

MANUFACTURERS OF

## GYPSUM PRODUCTS

**MINES and MILLS**

Oakfield, N.Y.

**GENERAL OFFICES**

Buffalo, N.Y.

Our electrically equipped mines and mills are now in operation with a capacity of 300 tons per day, and we assure you of prompt service.



We Manufacture Stucco,  
Neat Cement Plaster, Ready  
Finish, Wood Fibre Plaster, Fin-  
ishing Plaster, Sanded Wall Plaster,  
Crushed Rock, Land Plaster.

# THE SIMPSON CEMENT MOLD CO.

Asks the privilege of mailing to all Block Makers, Contractors and other Cement Users their illustrated literature concerning equipment for making

## Porch Trimmings and Other Ornamental Concrete Work

This Literature is well worth having on file because it shows in many illustrations what can be done along this line. It has helped to bring orders for thousands of Concrete Porches from house owners who would have known nothing about such work if they had not been shown these illustrations.

**SIMPSON MOLDS** make it easy for any good block maker to equal the beautiful porches shown in these pictures. Nearly 2,500 such block makers are using them and they find it very profitable to own them. The full line of molds makes more than 200 different varieties of blocks. You can select molds for as many or as few of them as you want.

*In writing please use your stationery or enclose your business card. We like to know who our correspondents are.  
Note change in address. It has been necessary for us to largely increase our facilities.*

**The Simpson Cement Mold Co., 140 E. Spring St. Columbus, O.**

Tell 'em you saw it in ROCK PRODUCTS



## The Improved Peerless One-Man Cement Brick Machine

Equipped with new tamping device, which tamps ten bricks in the machine at one operation, making 12,000 perfectly formed bricks in ten hours.



The superiority of the Peerless Brick Machine was demonstrated conclusively at all of the recent conventions.

It is the greatest invention in the industry. Simple, strong and durable. Combines all the advantages of every other machine at the smallest cost.

The most successful and most easily operated one-man brick machine ever made.

Write at once for particulars.

**Peerless Brick Machine Co.**  
15 NORTH SIXTH STREET MINNEAPOLIS, MINN.

## HERCULES BLOCK MACHINES

ARE THE FASTEST, SIMPLEST,  
STRONGEST AND

### BEST MACHINES BUILT

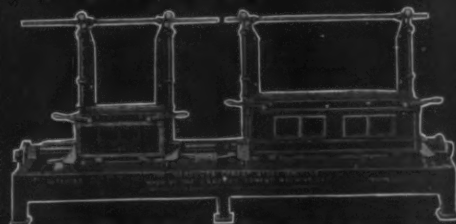
AND WE CAN PROVE IT

THEY EXPAND TO MEET EVERY DEMAND

THE ONLY machine making any size of stone from a 3 inch block to a 6 foot water table.

THE ONLY face down machine that allows for a really coarse WET mixture with fine facing.

THE ONLY machine on which four 16 inch stone can be made at ONE time, or two 20 inch, 24 inch or 32 inch stone at one time.



THE HERCULES IS AN OLD  
ESTABLISHED MACHINE

Built along Correct Lines and Endorsed by the Leading Contractors and Builders. They are used in all parts of the world.

Used by the progressive, up-to-date and successful

Contractors and Builders Everywhere,  
By the United States Government,  
By the British Government,  
The leading Railroads and Large Engineering Concerns.

They use

## Hercules Machines

### BECAUSE

They make sizes of blocks other machines cannot make, and make them better by making them WET.

It will pay you to investigate.

Send for catalog.

**CENTURY CEMENT  
MACHINE CO.**

288-298 St. Paul St.  
ROCHESTER, N. Y.

THIS new illustrated sixty-four page catalog has just been received from the press and will be mailed to you free upon receipt of your request.



It is a book compiled after many years of experience in the manufacture and use of concrete machinery and equipment, and embodies many fine-toned illustrations of the highest class concrete machinery in existence. It also contains much useful information for the buyer and will be found a handy reference book.

If you are in the market for anything in the line of concrete machinery or equipment you should receive this catalog before purchasing.

The merits of the machines and the clear illustrations are sure to please and interest you.

Don't put it off—send us your name right now. Tell us just what you are interested in most and receive this catalog with complete information and prices.



**The Cement Tile Machinery Co.**

740-45 Rath St., EAST WATERLOO, IA.

# Anchor Concrete Block Machines



ANCHOR MACHINE IN POSITION  
TO RECEIVE MIXTURE

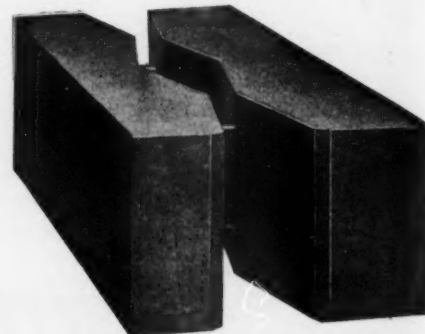
THEY HAVE STOOD THE TEST OF TIME AND MADE GOOD,  
WITH A PROFIT TO THE USER, TOO.

Anchor continuous air  
space blocks guaranteed  
frost and moisture proof.

Anchor blocks are bound  
together with firm  $\frac{1}{4}$  inch  
galvanized iron rods 8 inches  
long and turned one inch at  
each end.

Standard Anchor Ma-  
chines make blocks that lay  
in the wall 8 in. by 24 in.,  
any width from 8 in to 12 in.

Anchor Jr. Machines make blocks that lay in the wall 8 in.  
by 16 in. and any width from 8 in to 12 in.



THE FAMOUS ANCHOR BLOCK.  
ENDORSED BY ARCHITECTS EVERYWHERE.

ONE ANCHOR MACHINE, PLUS ENERGY, BACKED  
BY A LITTLE CAPITAL. MEANS THE PRODUCTION OF  
HIGH-GRADE BUILDING ALWAYS IN DEMAND.

WRITE FOR CATALOGUE AND PRICES.

ALL MACHINES SOLD DIRECT TO THE TRADE.

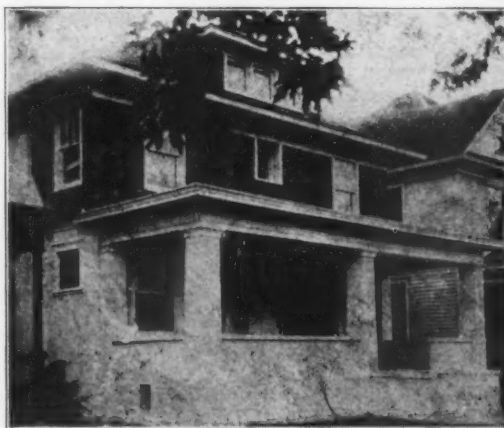
**Anchor Concrete Stone Company**  
ROCK RAPIDS, IOWA

## KELLASTONE PURE WHITE PLASTIC STONE

Applied on wood or metal skeleton frame, inside and outside walls, porch complete, steps and columns.

**Water Proof  
Fire Proof  
Acid Proof**

Imagine a house without a crack  
or crevice. No carpets; floors and  
base one piece. Rug center with  
colored border.



Architects can let their fancy  
run wild. Kellastone can be ap-  
plied on any shape or form, wood  
or iron. Twenty-five shades or  
colors.

Branch factories will be  
established throughout  
the United States.

**Main Factory**

Address

KINTZ DWELLING, South 7th Street, Terre Haute, Ind.

**Main Office**

**Sanitary Construction and Manufacturing Co.**  
TERRE HAUTE, IND.

Tell 'em you saw it in ROCK PRODUCTS

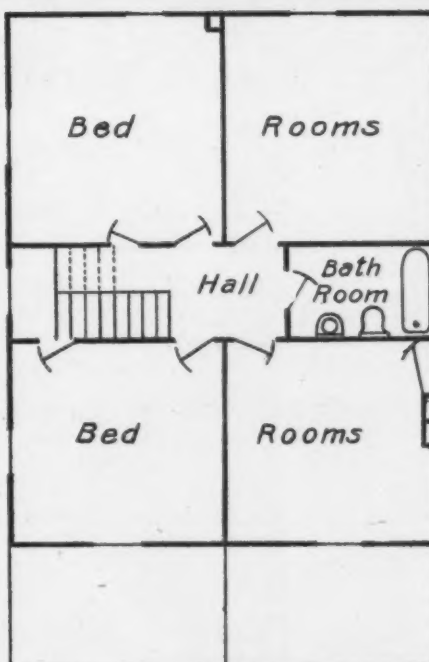
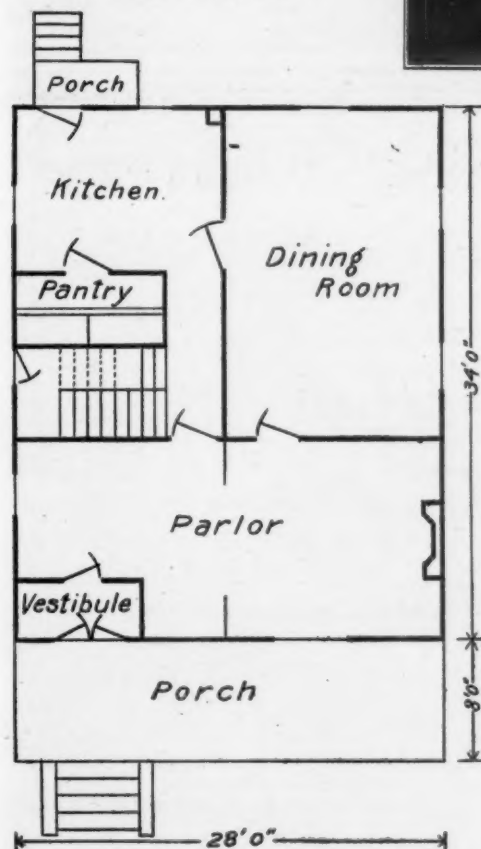
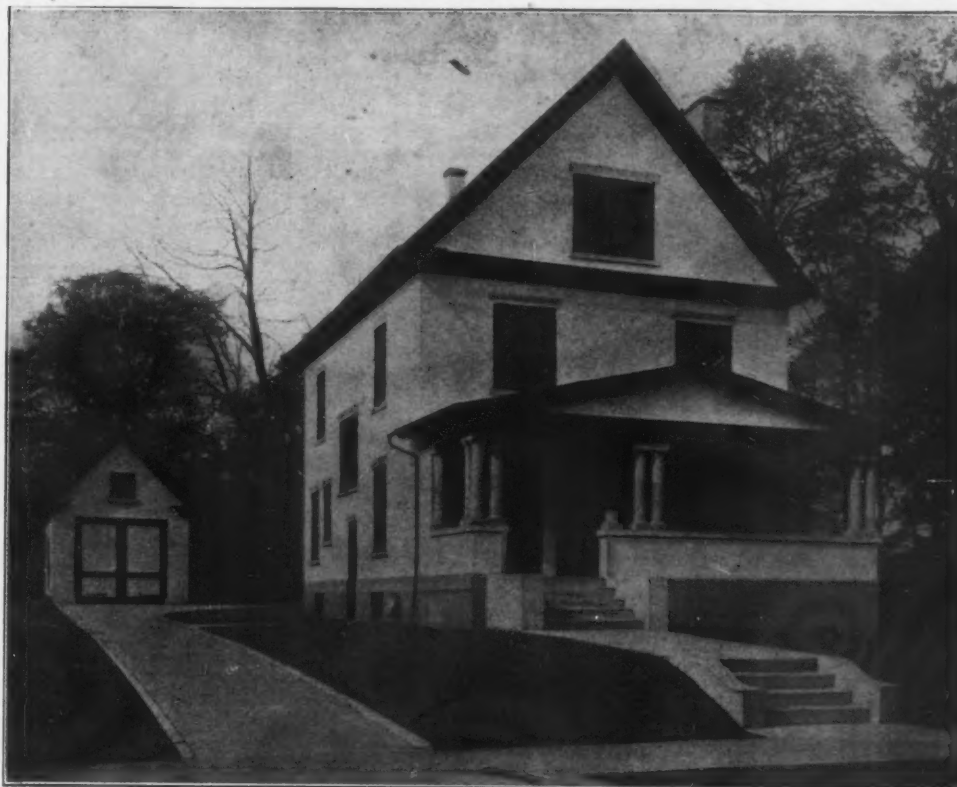


# Low Cost Concrete Homes

The greatest obstacles to the use of concrete in small residence construction are: 1. The expense of form work and contractor's plant in reinforced concrete (monolithic) construction, and 2. The unsatisfactory appearance and poor waterproof qualities of concrete blocks made by the dry-tamp process. Both these obstacles have been overcome by

## The Pauly Concrete Hollow Tile.

Full particulars with regard to the equipment of a suitable factory with the necessary machinery for any location will be cheerfully given, and a conservative and profitable deal will be exhibited for prospective manufacturers of concrete structural tile upon request.



Frank M. Ray's  
Residence  
Youngstown, Ohio.

This residence is fireproof and waterproof. It was built in Youngstown, Ohio, fall of 1908, upon the following contract specifications:

Masonry work complete, including selling price of tile, concrete floor extending under entire basement and combination tile and reinforced concrete floors...	\$950.00
Excavation of cellar and construction of walks, steps, etc., outside of building proper...	125.00
Lumber, hardwood lumber finish for interior and glass (including built-in furniture and plate glass mirrors)...	1,000.00
Carpenter work...	700.00
Slate roof and spouting...	200.00
Plumbing in kitchen, bathroom and basement...	250.00
Painting (exterior and interior)...	125.00
Furnace and piping...	150.00
Total plastering (including material)...	200.00
	\$3,700.00
Plus 10% profit...	370.00
Total contract price...	\$4,070.00

The walks, driveway and steps, as well as the porch columns, are of concrete. It is sumptuously finished inside with hardwood, plate glass windows and doors with slate roof and six massive pieces of built-in furniture of elegant design, with plate mirrors, etc., all included in the figure named.

There is a good business opportunity in building homes of this type in any city. We furnish the entire machinery outfit upon the basis of a lease.

Send for booklet showing a large number of houses built with this material.

## CONCRETE STONE & SAND CO., Youngstown, O.

Tell 'em you saw it in ROCK PRODUCTS

**PERFECTION IN BLOCK MAKING**

If you wish to attain this you should combine these three important features:

**Wet Process, Face Down,  
Damp Curing.**

The PETTYJOHN INVINCIBLE Machine does this, and is the only machine that does. Tandem Invincible makes two blocks at once. Price \$65.00 and up. Single Invincibles, \$35.00 and up. With our Triple Tier Racking System green blocks can be stacked three high direct from machine with inexpensive home-made rigging. Plans and blue prints free to customers. It economizes space, reduces off-bearing distance and above all insures slow, even, damp and perfect curing and bleaching.

Write for our latest edition of "Stone Making," a book of valuable data, just off the press—FREE

**THE PETTYJOHN COMPANY**

614 North Sixth Street Terre Haute, Indiana

**Perfection at Last Attained in  
the Concrete Block Industry**

The Perfection Power Block Machine is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.

Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks. Machine can be arranged to make Two Piece and Faced Blocks if desired.

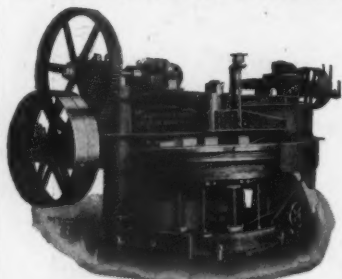
All machines delivered, set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with five men.

Blocks perfectly cured in 24 hours in Vapor Curing Kilns of our own design.

Full details, catalog, testimonials, etc., sent upon request.

**THE PERFECTION BLOCK MACHINE CO.  
SIOUX FALLS, SOUTH DAKOTA.****The American Sandstone Brick Machinery Co.**

SAGINAW, MICH.



Improved Saginaw Rotary Press.

Built either right or left handed in three sizes of capacities of 800, 1400 and 2200 brick per hour. Can be equipped with extra table for making face and fancy brick on which double pressure is exerted.

Complete Sandstone Brick Plants or Partial Equipments Installed Under Absolute Guarantees as to Capacity, Quality, and Cost of Production.

WE are the oldest manufacturers of Sand Lime Brick Machinery in the U. S. today, and have more successful plants in operation than any other Company. Why not profit by our experience? Send us samples of your sand and let us advise you as to it's quality for brick purposes and what machinery you will require to produce the best results. Write for catalogue "C" describing our system in detail.

**Buffalo Brick Clamp****Will Pay  
for Itself**

In three days by handling brick over the old method.

By saving twenty-five per cent. time unloading a car of brick.

By not making a mistake in the count, as they can be adjusted from four paving brick to twelve regular.



THE ONLY TOOL TO HANDLE BRICK

Manufactured by

**Mostberger-Langner Iron Co.**

876-890 S. Division St., Buffalo, N. Y.

By saving from 50c to \$1.00 on every thousand pressed brick by not chipping.

Pavers save thirty-three per cent. by carrying bricks from curb to paver instead of wheeling them.

Takes from four paving brick to twelve regular.

**Imitation Is the Sincerest Flattery**

Since it has been proved that our Patented Method for mixing sand and lime for the manufacture of brick or stone, commonly known and named by us the

**"Division Method"**

is a success, and the only way of producing a high grade brick or stone of real merit at a low cost, others are offering to install a

**"Division Method" or a "Division System"**

AS SOME CALL IT

Although we fully appreciate the high compliment paid us by such attempts to imitate our process

**WE DESIRE TO WARN INVESTORS**

that such imitation or "just as good" methods are failures, because "they do not deliver the goods". Moreover, any successful imitation would be an infringement on our process which is fully covered and protected by Letters Patent in the United States and all foreign countries. We will protect our patents and prosecute infringements.

We erect and equip up-to-date factories completely, furnishing machinery of special design for our use and operated under our Patented

**"Division Method"**

producing the highest grade brick or stone possible to make at less cost than can be produced by any other system or machinery.

Correspondence Solicited.

**International Sand Lime Brick & Machinery Company**

Engineers and Contractors for Silicate Brick Factories

90 West St.,

New York, N. Y.

Tell 'em you saw it in ROCK PRODUCTS



n  
y  
ne  
d  
to  
ls  
d  
s.  
d  
n.  
=

p  
rom  
on  
and  
by

ave  
per  
ing  
urb  
lead  
ng

our  
to  
r.

W.

S

O

We  
it a  
qua  
We  
or v  
Our  
full

and  
Cen  
App

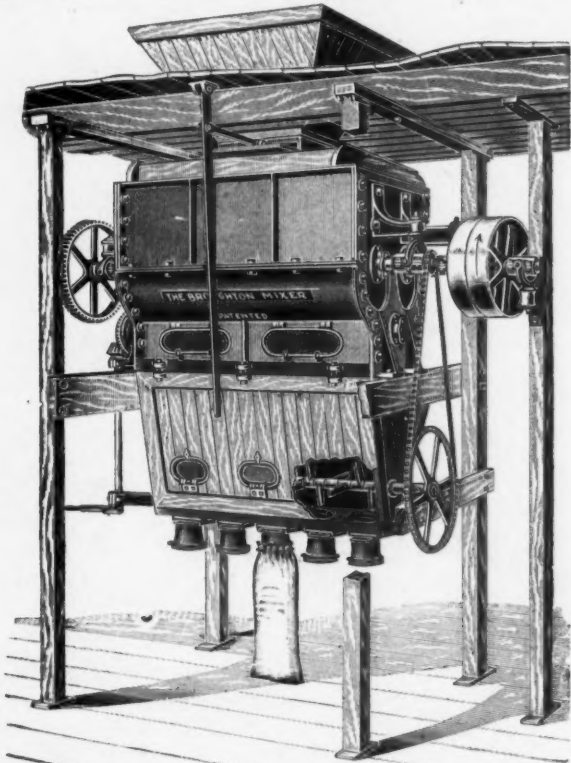
ther

T

M

W

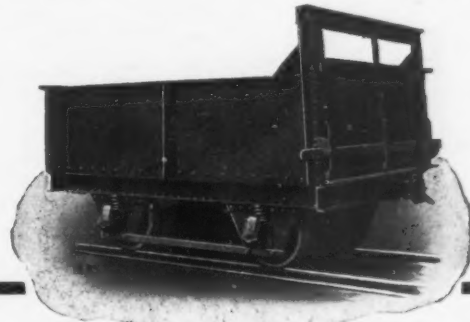




The most thorough and efficient Mixers of Plaster, Cement and Dry Materials. Send for Circular.

W. D. DUNNING, Water St., Syracuse, N. Y.

"USE WIENER TRACKS AND CARS TO CARRY YOUR LOAD."



Above cut shows an all-steel car for carrying cement, limestone, etc.

## OUR STEEL CARS

Stand in a class by themselves. They are manufactured by SPECIAL MACHINERY and combine the latest ideas of design and construction. Our experience covers a period of 20 YEARS in this business and our Industrial Railway Material embodies all the features which experience has taught us to be the best.

### LARGE STOCK

of Industrial Tracks, Frogs, Switches, Crossings, Turntables, complete track layouts, CARS, etc. Prompt shipment of all equipment. Our Catalogue 17 is full of illustrations and gives dimensions and other valuable information—It will be sent on request.

RAILROAD SPECIALISTS FOR ALL INDUSTRIES.  
**ERNST WIENER**  
• COMPANY •

196 Fulton St., NEW YORK, N. Y.

Agents for Industrial Locomotives for the Baldwin Locomotive Works.

#### BRANCH OFFICES:

Chicago, 1540 First National Bank Building	Pittsburg, 419 Park Bldg.
Boston, 141 Milk St.	Denver, Col., Cooper Bldg.
Los Angeles, Cal., 106 W. 3d St.	Norfolk, Va., 100 Water St.
San Francisco, 202 Second St.	St. Louis, Mo., 563 Security Bldg.

# Sand-Lime Brick Machinery

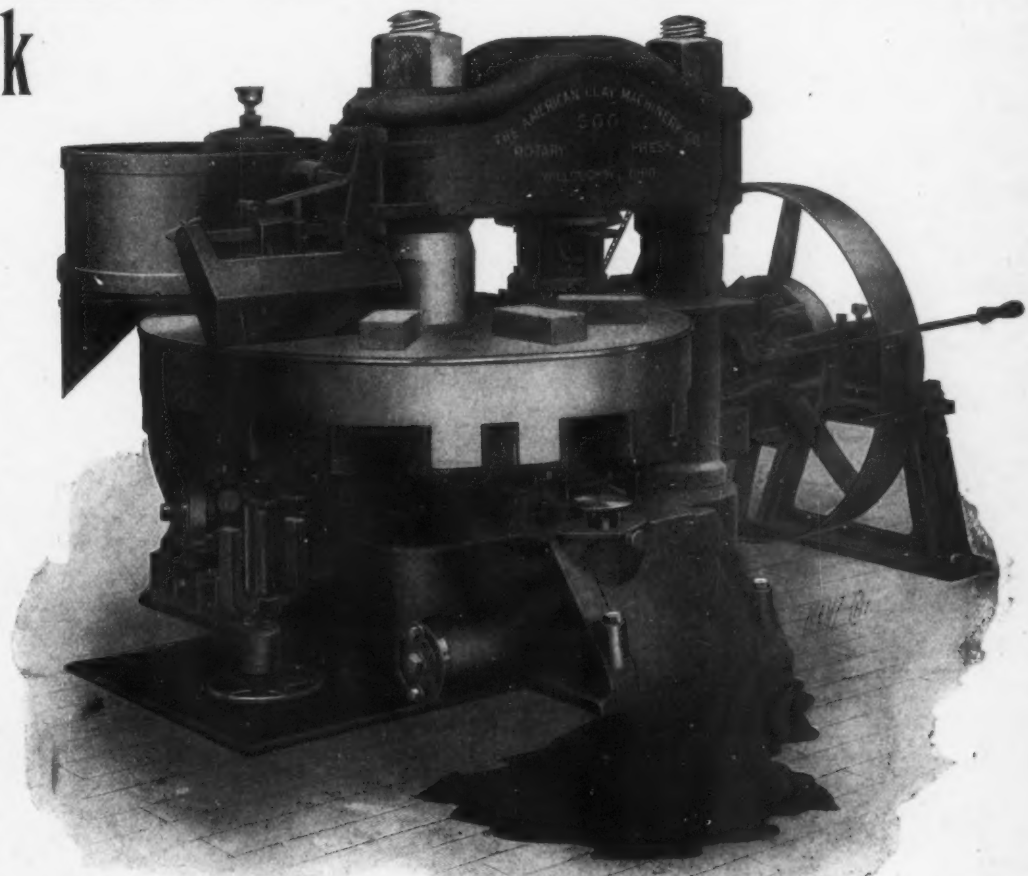
OUR Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We build it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.

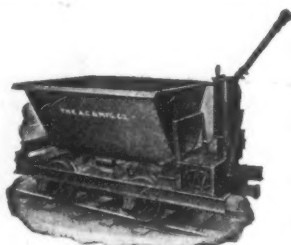
**The American Clay Machinery Company**

WILLOUGHBY, OHIO, U. S. A.



Tell 'em you saw it in ROCK PRODUCTS

WE BUILD  
**CARS**  
FOR



No. 217-E  
Slide Dump Car  
Equipped with Motor

QUARRIES,  
MINES,  
CEMENT  
WORKS  
AND  
GENERAL  
USE



No. 277  
Steel Mines and Quarry Car



No. 145-C  
Pressed Steel Top, Half Bearing  
Turntable; Patented

SWITCHES,  
FROGS



No. 600  
Steel Dumping Bucket

RAIL,  
TURNABLES

**THE ATLAS CAR & MFG. CO.**  
CLEVELAND, OHIO.

## GIANT PORTLAND CEMENT



An unsurpassed record  
of 25 years.

(Send for our booklets.)

**American Cement Co.**  
**PHILADELPHIA**

## ARE YOU GOING TO BUILD?

No matter what kind of a structure you contemplate building, it will pay you to post yourself on the advantages of concrete construction made with

Daily  
Capacity

# ATLAS

Over  
40,000 Barrels

# PORTLAND CEMENT



A concrete building means protection from fire, vermin and decay. It is cool in summer and warm in winter; requires no paint or repairs, yet permits of pleasing architectural effects and color schemes. In most cases you will find concrete construction the least expensive in the beginning and in all cases the cheapest in the end.

The success of concrete construction depends largely on the quality of the cement used. ATLAS is the highest grade of Portland Cement manufactured.

This Company makes but one quality—the same for everybody.

Tell your architect to specify ATLAS.—Ask your dealer for it. You will know it by the Trade-Mark.

Building Books FREE on request. As a guide to prospective builders we have published the following books which will be sent FREE on receipt of postage.

Concrete Country Residences. Postage 25 cents.

Concrete Cottages. Postage 1 cent.

Concrete Construction about the Home and on the Farm. Postage 14 cents.

Reinforced Concrete in Factory Construction. Postage 10 cents.

**THE ATLAS PORTLAND CEMENT COMPANY**

DEPT. V

30 Broad St., New York

Tell 'em you saw it in ROCK PRODUCTS